Rebuilding Central Park:

DRAFT EDITION

A Management and Restoration Plan

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Cover photo: The Park in 1935, photographer, Alajo Schuszler

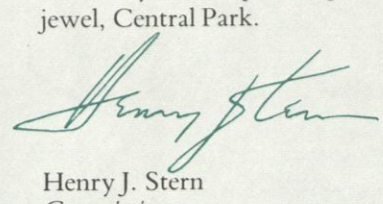
Preface

The Management and Restoration Plan for Central Park outlined in the following pages, like Olmsted and Vaux's Greensward Plan, which guided its original construction, is a seminal document significant not only to this Park but to other parks in New York City and elsewhere.

Since 1977, the city has committed more than $25 million in capital restoration funds to the rebuilding of some of Central Park's most important architectural and landscape features, including the Belvedere Castle, the Dairy, the Bethesda Terrace, Cherry Hill, Strawberry Fields, the Pond and many bridges and arches. Aided by the Central Park Conservancy, the Parks Department has employed crews of skilled arborists, gardeners, carpenters and stonemasons to maintain and restore the Park's landscape, infrastructure and buildings.

Now, with the publication of this document, a program exists for Central Park's systematic and coherent renovation over the next 10–15 years. It will ensure that problems of erosion, drainage, circulation and just plain old age are corrected throughout Central Park's 840 acres. Most important, the management strategies outlined here will enable the Park to flourish and endure.

Today, as in the past, Central Park is a laboratory for park design, use and restoration. It is our hope that this draft document will be widely discussed and modified as necessary. At the same time, the Parks Department will continue to seek funds for the restoration of New York City's incomparable park system and its crown jewel, Central Park.



Henry J. Stern
Commissioner
City of New York
Parks & Recreation

Rebuilding Central Park: A Management and Restoration Plan

The material in this report is based on a three-year planning study of Central Park by a team of landscape architects and consultants working under the direction of Elizabeth Barlow, Central Park Administrator. The principal members of the team whose work and recommendations form the substance of Parts I and III are Marianne Cramer, Judith Heintz, Bruce Kelly and Philip N. Winslow. Pamela Tice conducted a management study that is an important reference for Part II. The text was written by Elizabeth Barlow and John Berendt, and the latter served as managing editor of the project. Ellen Rosenbush did the copy editing. The graphic design is by Heidi Humphrey of H Plus Inc.

Acknowledgments

The expertise and assistance of several Parks Department officials, consultants and staff have been drawn on for various aspects of our plan.

Parks Commissioner Henry J. Stern has supported many of the recommendations outlined herein in the most significant way possible—by implementing those aspects of the plan that have already gone forward in the form of Park policies, capital projects and funding for personnel in innovative new management programs. Deputy Commissioner Robert Santos has also assisted in implementing new management strategies, and Deputy Commissioner Barbara Gunn has been especially helpful in supporting the preparation of a discrete Central Park expense budget, the first one in many years.

Manhattan Borough Commissioner Patrick J. Pomposello has provided much practical advice and operational support. The Parks Department Horticulturalist, Geraldine Weinstein, deserves principal credit for reestablishing groundskeeping practices in Central Park. Assistant Commissioner Robert Russo has made a special contribution, along with Security Consultant Thomas Vitullo-Martin, toward implementing new security policies and management practices that are making the Park safer and less abused. Concessions Director Joanne Imohiosen has been particularly supportive in establishing effective business relationships with the concessionaires who are operating facilities that are critical to the success of this plan.

The research that supports many of our conclusions and recommendations has been extensive. Much of that research has been performed by the planning staff and Central Park field personnel. In particular, landscape architect Marianne Cramer has devoted much time to understanding the Park's topography and drainage. Her report drew from hydrology and soils surveys conducted, respectively, by Lockwood, Kessler and Bartlett, Consulting Engineers, and the U.S. Department of Agriculture's Soil Conservation Service, as well as by Anthony Emmerich of the Central Park Soil Laboratory. The New York City Department of Environmental Protection prepared a water quality report on the condition of the lakes. Landscape architect Judith Heintz was responsible for the report on the Park's vegetation; she, along with Ms. Cramer and Mr. Kelly, surveyed the Park's goundplane vegetation. Mr. Kelly researched the history of Central Park's vegetation. Former Deputy Central Park Administrator Andrew French collected information and made many helpful recommendations regarding Park management. Timothy Marshall, Assistant Central Park Administrator for Construction, has advised on bronze and masonry conservation, graffiti removal and restoration project management in general. Central Park Horticulturalist Frank Serpe is in charge of the computerized inventory of 24,000 Park trees and has provided much valuable information relating to soil science, turf maintenance and shrub plantings.

William Kornblum and Terrance Williams performed the user analysis that forms the basis of the chapter "A Park for the People." Philip Winslow and David Rosen undertook a circulation study that resulted in "Paths, Drives and Bridle Trail." John Hecklau gave us many valuable insights in his report on the wildlife of Central Park. The Ehrenkrantz Group inventoried all structures in Central Park. We are grateful to Parks Department historian Michael Siegel, who has researched several aspects of Central Park's past.

Staff photographer Sara Cedar Miller has taken most of the contemporary photographs in this document and has researched various photographic archives for historic views. Finally, we owe a special debt of gratitude to Susan Stanton, who has overseen the production of this publication, and to Timothy Purcell, who has typed all of the drafts and revised drafts as well as the final manuscript.

The publication of this plan was funded through a grant from the National Park Service, U.S. Department of the Interior, under the provisions of the Urban Park and Recreation Recovery Act of 1978 (Title X, Public Law 95-625).

—*E.B.*

Introduction

"Central Park is a completely man-made landscape. It was sculpted out of a ragged fringe of New York City."

The Department of Parks of the City of New York and the Central Park Conservancy are currently embarked on a major 15-year program to rebuild Central Park. Like much of the rest of the city's aging infrastructure, the Park has been allowed to deteriorate through years of neglect.

The plan outlined in the following pages is not merely one of capital reconstruction; it is a *management* plan as well. Consistent, high-quality, professional management is crucial if the Park's investment is to be protected once restoration is completed. The vicious cycle of capital investment followed by management neglect, inadequate maintenance, deterioration and a new round of capital investment must be broken if Central Park is to successfully accommodate the 14 million people who visit it each year. The reasoning behind the recommendations presented can be best understood against the story of the Park's creation and its 125-year history.

In 1850, the pre-Park site was a barren rectangle of rocks and swampland occupied by squatters, goats and a bone-boiling works.

A Great Democratic Experiment

Central Park is a completely man-made landscape. It was sculpted out of a ragged northern fringe of New York City, a mostly barren, long and too-narrow rectangle inhabited by squatters and goats, littered with refuse, studded with jagged outcrops of Manhattan schist and miry with low-lying swamps. The Park's creation was a monumental feat of engineering that cost $14 million—$118 million in 1984 dollars. Undertaken as a bold democratic experiment in which all social classes were invited to mingle in scenic surroundings of uplifting poetic beauty, the Park was artfully constructed in accordance with a carefully conceived master plan. The Greensward Plan, as it was called, was the winning entry in the design competition held in 1857; its authors were Frederick Law Olmsted and his partner, the architect Calvert Vaux.

The elements of Olmsted and Vaux's design were placid lakes and gurgling brooks, broad green meadows, soft lawns and dappled woodlands. This romantic landscape was punctuated by a single formal promenade and threaded by a beautifully articulated circulation system of curvilinear paths, a Bridle Trail and broad carriage drives.

Between 1870 and 1871, Boss Tweed and his Tammany Hall ring nearly undid this illusion of a romantic natural paradise with a great deal of ruthless butchery of trees and shrubs. But generally, the Park prospered throughout the nineteenth century and was a well-maintained, elegant pleasure ground successfully fulfilling its democratic mission. Its basic elements remained intact, and its designers' visions were realized as trees matured and grew to fine proportions.

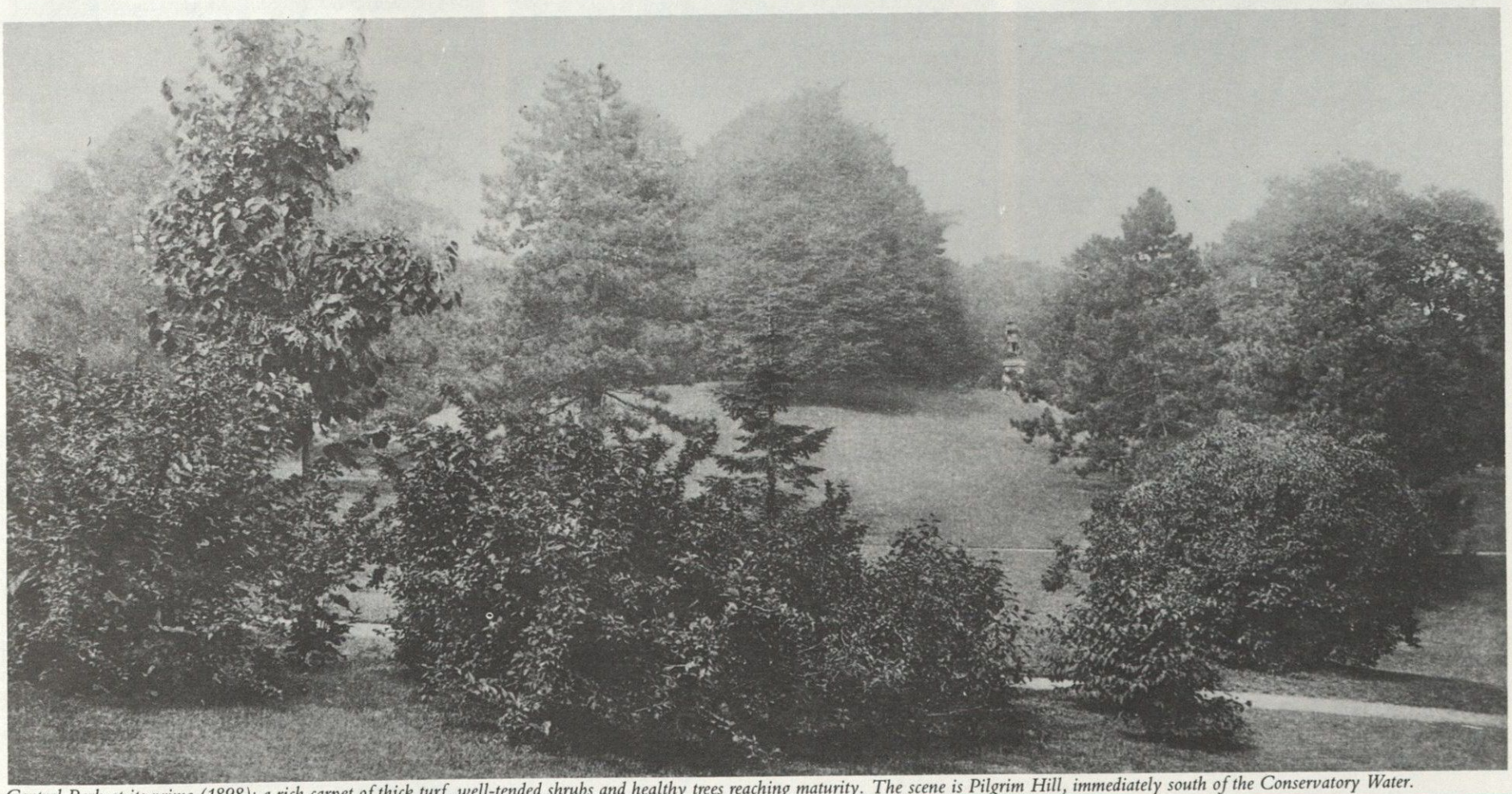
Olmsted and Vaux's successor was Samuel Parsons, a landscape architect and distinguished horticulturist, who nourished and extended their concepts during a period of great botanical discovery that saw the naturalization of many exotic species and hybrids in Central Park. Turn-of-the-century photographs and paintings show the Park at its prime with thick turf, well-tended shrub beds and benches, ornamental fountains, arbors and boat landings in generally good repair.

The Rise of Recreation

By the end of the nineteenth century, the Park that Olmsted and Vaux created and Parsons perpetuated—the rural idyll in the midst of the burgeoning noisy city—had been invaded by two alien ideologies: the City Beautiful Movement and the Reform Movement.

The City Beautiful Movement found its expression in the monumental neoclassical architecture of the Beaux Arts school, particularly after the trendsetting World's Columbian Exposition in Chicago in 1893. Olmsted vigorously fought the idea of grafting Beaux Arts architecture onto Central Park, especially when a scheme was put forth to embellish the Park with a series of monumental gates designed by Richard Morris Hunt. Although Hunt's plan was defeated, the Park nonetheless gained certain monumentalizing touches, notably the Maine Monument erected in 1913 at the Columbus Circle entrance.

Less aesthetically inclined were the reformers for whom programmed recreation was a tool for improving the lot of the underprivileged. The initial impact of this philosophy was, by and large, first felt outside Central Park as playgrounds and public baths were built near the teeming tenements. But eventually the reform culture found expression within Central Park as well.



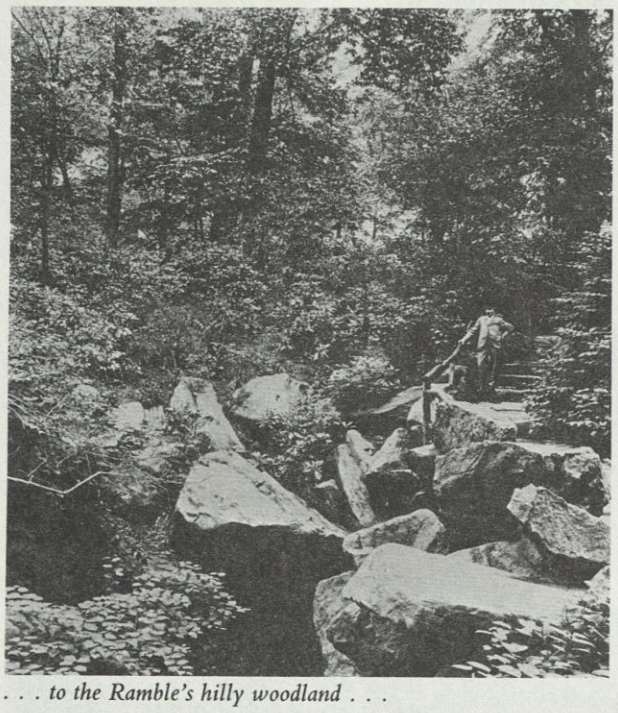
Central Park at its prime (1898): a rich carpet of thick turf, well-tended shrubs and healthy trees reaching maturity. The scene is Pilgrim Hill, immediately south of the Conservatory Water.

"...most of the playgrounds and other facilities that Moses added were inserted into the Park with little consideration for the framework of the original plan."

Central Park's major visual sequence: Visitors enter at Fifth Avenue and 59th Street; they move up the Drive to the Mall . . .

The promenade along the Mall leads to Bethesda Terrace . . .

From Bethesda, visitors are drawn by the view across the Lake . . .



. . . to the Ramble's hilly woodland . . .

And finally to the Belvedere in the heart of the Park.

The 1902 Annual Report of the Department of Parks observes that Central Park provided "facilities for skating, lawn tennis, baseball, croquet, football, basketball and other games." Several slopes were opened that year for sledding. The demand for tennis was so great that in 1915 over 20,000 tennis permits were issued; nets were set up on the Sheep Meadow; and clay courts were installed on the South Meadow, the site of the present courts. Schools, settlement houses and church and civic organizations obtained nearly 2,000 permits for spring festivities in the Park, including the extremely popular May Day celebrations.

In the 1920s, recreation in the Park became even more organized. There were canoe regattas and swimming meets in the Lake, miniature airplane contests on the Sheep Meadow, roller-skating contests on the Mall, miniature sailboat races and ice-skating derbies on the Conservatory Water, as well as tennis tournaments and marble-shooting contests elsewhere in the Park. Permanent facilities—playgrounds and courts for hardball, shuffleboard, bocci and basketball—had not yet been imposed on the Greensward Plan, but this situation would change with the long, influential tenure of Robert Moses as New York City Parks Commissioner.

The Moses Era: Recreational Facilities Invade the Greensward

Robert Moses became New York's first citywide Parks Commissioner in 1934. A man with far-reaching authority and a powerful personality, his tenure lasted 26 years. In that time Moses altered the Park's physical appearance considerably. Unlike Olmsted and Vaux, he did not see the Park as a series of naturalistic scenes nestled in the heart of the busy city. He was a reformer and a builder. Fortunately, he built compactly scaled, soundly constructed and often whimsically ornamental recreation buildings. It was an ingratiating approach. Droves of delighted New Yorkers applauded his touches of fantasy and fun and the very real recreational opportunities he brought them.

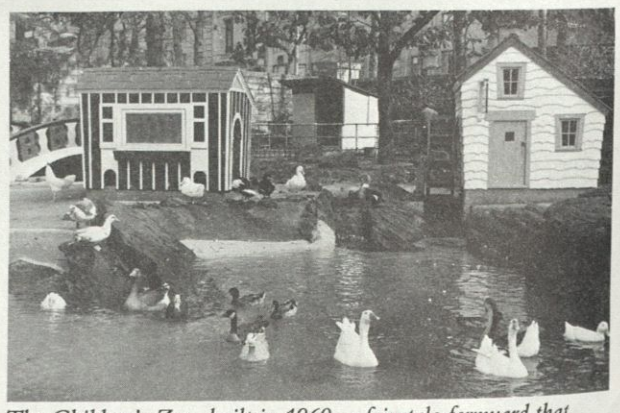
Because ice-skating had been immensely popular since the Park's inception, Moses built the Wollman Rink over one arm of the 59th Street Pond and guaranteed hard ice every day of the season. It was deplored at the time by architectural historian Lewis Mumford and by later critics as a heavy-handed eyesore, but the Wollman Rink nonetheless became and remains one of the most popular recreational features in New York.

While most of the playgrounds and other facilities that Moses added have had enthusiastic constituencies, they were inserted into the Park with little consideration for the framework of the original plan. Not only did the new elements destroy some of the Park's most carefully conceived views, but they created circulation problems as well.

Moses was not totally against the idea of nature—his trained gardeners performed horticultural miracles, turning many parts of Central Park and other parks into showcase gardens—but he preferred nature somewhat tidied up and prettified, rather than pastoral and semi-wild. A fairy-tale barnyard/zoo was more to his taste than real sheep grazing on the Sheep Meadow.

In the 1930s, recreational facilities were viewed as more important than Olmsted's naturalistic scenery, as typified by the Wollman Rink, which was built over part of the Pond.

In the 1960s, following the retirement of Moses as Parks Commissioner, the Park became more vulnerable than ever to encroachment. Plans were drawn up for a subway and a water tunnel burrowing under it; a café was proposed opposite the Plaza Hotel in the Southeast Corner. Never had its founders' ideal of a green oasis and a place of democratic assembly been more threatened. In a curious way, however, the social changes of the 1960s sowed the seeds of the Park's salvation.



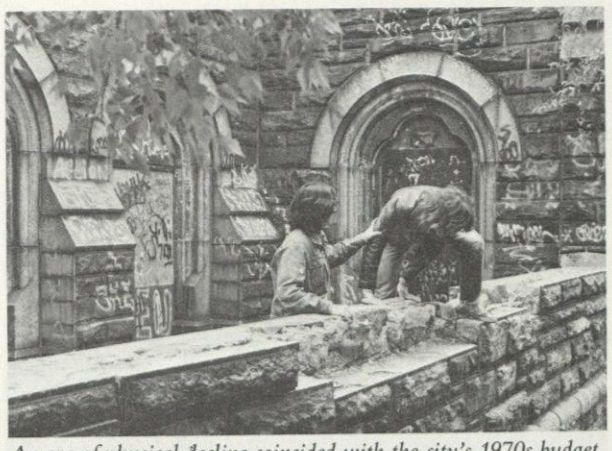
The Children's Zoo, built in 1960: a fairytale farmyard that was preferred by Commissioner Robert Moses to the Park's naturalistic scenery.

"Once-green lawns were bare dusty hardpan; slopes were gullied with erosion, water bodies silted. Broken benches and clogged catch basins lined every path..."

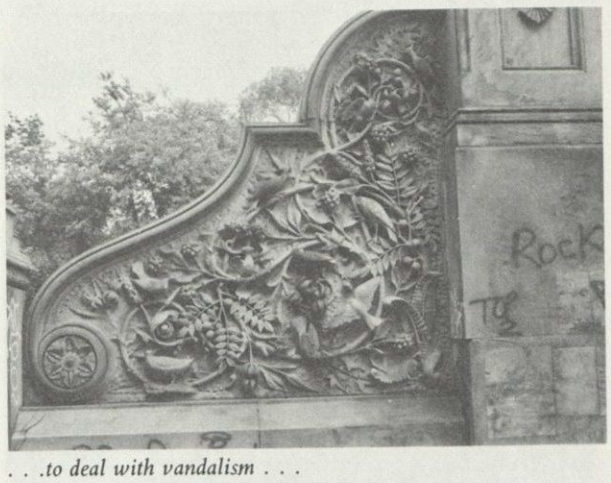
Decline and Reversal

During the 1960s, the Park's protectors were few but determined. They succeeded in defending its greensward from the imposition of the proposed Huntington Hartford Café, and soon after the city's Landmarks Commission was created in 1965, they campaigned for the then-novel notion of scenic historic landmarks and for the designation of Central Park as one of the first such landmarks. (Designation eventually occurred in 1974.) But the preservation of the Park and its current restoration might not have been possible had the Park not become hugely popular once again. Lacking sound management, this popularity did more harm than good at first as the delicate fabric of the Park's landscape was trampled and abused, but it did reaffirm the Park's role as the life-enhancing heart of the city.

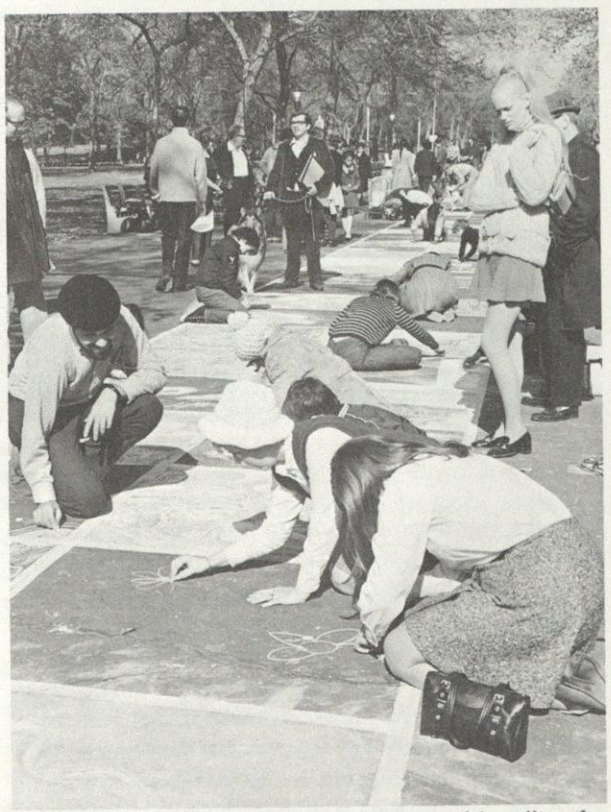
This was the era of happenings, and under the brief, dramatic and well-publicized leadership of Mayor John Lindsay's first Parks Commissioner, Thomas Hoving, Central Park became a giant stage set for the improvisational drama of urban life. The people of the city embraced their roles as actors in a variety of spontaneous performances and planned spectacles: war protest marches, gay liberation rallies, a lunar-eclipse watch, New Year's Eve parties and the Schaeffer rock concerts. The Park wedding, with individually styled vows, became fashionable for a while. Barbra Streisand's concert on the Sheep Meadow in 1967 drew the largest gathering of people in the Park's 100-year history. Undoubtedly the greatest contribution to the atmosphere of festivity during this period was the banning of the automobile in the Park on weekends.



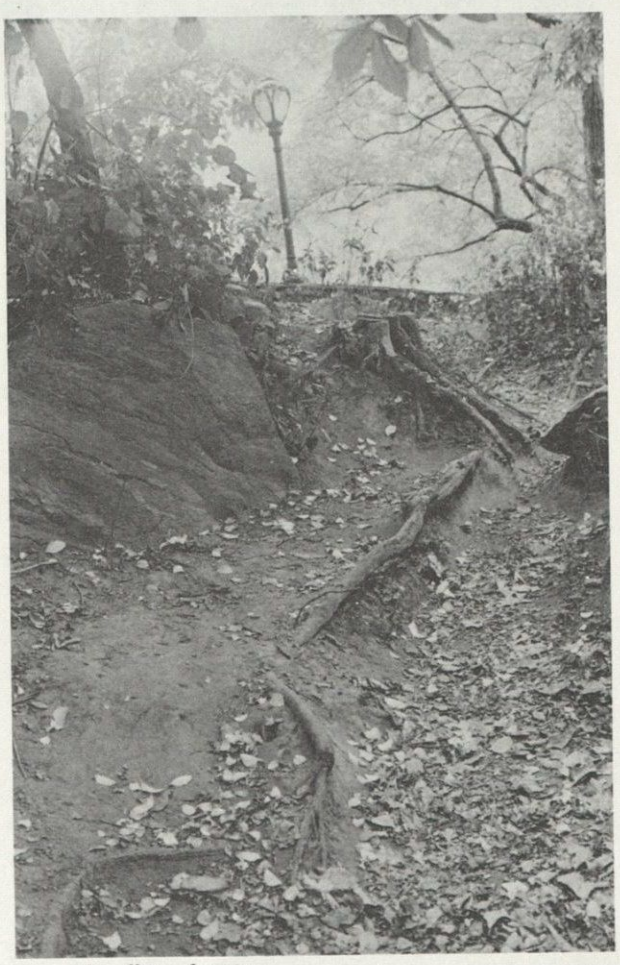
An era of physical decline coincided with the city's 1970s budget crisis. Maintenance dollars were insufficient . . .



. . .to deal with vandalism . . .



Central Park was the locale of choice for many of the rallies, festivals and happenings of the 1960s.



. . .or the effects of erosion.

From 1966 until 1972, the Parks Department was headed by August Heckscher, the grandson of the donor of the Heckscher Playground. Heckscher, who had previously served as John Kennedy's cultural affairs adviser, gave as much attention to the arts as to the parks. He could speak eloquently about the importance of parks in urban life, but increasingly he was forced to accept the cuts imposed by City Hall as Lindsay's budget officials searched for economies to help offset the city's rapidly growing debt.

During this period, only plumbing repairs of an emergency nature were performed, and comfort stations throughout the park system were closed one by one. Both drinking and ornamental fountains were allowed to go dry. By the mid-1970s, the Belvedere had become a vandalized ruin, its parapets broken and its rustic stonework laced with graffiti. Jacob Wrey Mould's elegant carved-stone Bethesda Terrace staircase, alive with the vitality of Victorian ornamentation, was similarly defaced. The Shakespeare Garden became a weed-choked ruin.

Heckscher's administration ended in 1972. His successor, Richard Clurman, sized up the situation and saw that the entire complex of recreational facilities that Moses had built could not be maintained. He reasoned that planned—or worse, unplanned—shrinkage of the system was inevitable and consequently made what at the time sounded like a hard-nosed statement but later proved to be merely practical: "Let the communities take care of their parks, and where they are indifferent and allow them to become derelict we'll close them down."

But Central Park was too popular and too significant ever to be closed down; in fact, Central Park was a major civic institution in its own right, important to residents and tourists alike. It had to be saved. As he walked through the Park, Clurman noticed how the dirt from the barren unplanted slopes had washed into the 59th Street Pond, turning it into a mud flat filled with reeds and other vegetation. He noticed how the slab supporting Wollman Rink had become warped and cracked. He assembled a team of Parks Department architects and outside consultants to develop a multimillion-dollar master plan for a staged rehabilitation of the Park starting with the greatly abused Southeast Corner. But this initial plan, while laying the groundwork for the current plan, could not become an agenda for action and therefore had to be abandoned. New York City was in a fiscal crisis; its budget was rescinded. The state-sponsored Emergency Financial Control Board took financial control.

During the administration of Mayor Abraham Beame, Clurman's successors—a series of four commissioners in as many years—could do little but preside over drastic budget cuts, which began with the layoffs of 800 Parks Department employees in June 1975. Funds from the federal Department of Labor, through the CETA program, were used to keep a bare-bones work force alive, but capital projects for restoration were at a standstill.

Slowly, however, matters began to improve after the election of Edward I. Koch as Mayor in 1978. Koch's appointment of a lawyer and City Planning Commission member, Gordon J. Davis, as Parks Commissioner that year was a particularly good one. Davis became an effective advocate of Parks Department needs at City Hall. As allocations were being made for the city's restructured and better-managed budget, Davis fought for and received sufficient appropriations to "buy back" most of the CETA employees when that program was terminated by the Reagan administration, thus reestablishing a career work force within the Parks Department. Additionally, he received funding for a program of Urban Park Rangers and for several restoration projects, some of which had been envisioned by the 1973 Central Park Master Plan.

In 1979, Mayor Koch created the position of Central Park Administrator, for the first time making a single individual responsible for supervising the ongoing restoration effort and coordinating the Park's day-to-day management and operations. Private funds were solicited to support the work of this new office within the Parks Department, and in 1980 the Central Park Conservancy was founded. The organization's mission is to act as a catalyst by funding innovative programs and projects that cannot be done with city funds. Another of its functions is to provide firm guardianship to Central Park to help ensure that it never again becomes as abused, deteriorated and indifferently managed as it was in the 1970s.

The condition of Central Park at the time of the formation of the Administrator's Office and the Conservancy was truly shocking. Once-green lawns were bare dusty hardpan, slopes were gullied with erosion, and water bodies silted and choked with weedy vegetation. Broken benches and clogged catch basins lined every path. Years of graffiti scrawlings covered almost every available stone, brick and wood surface. The traffic on

"For the first time in 125 years, Central Park has been examined in minute detail... including a computerized inventory of its 24,000 trees."

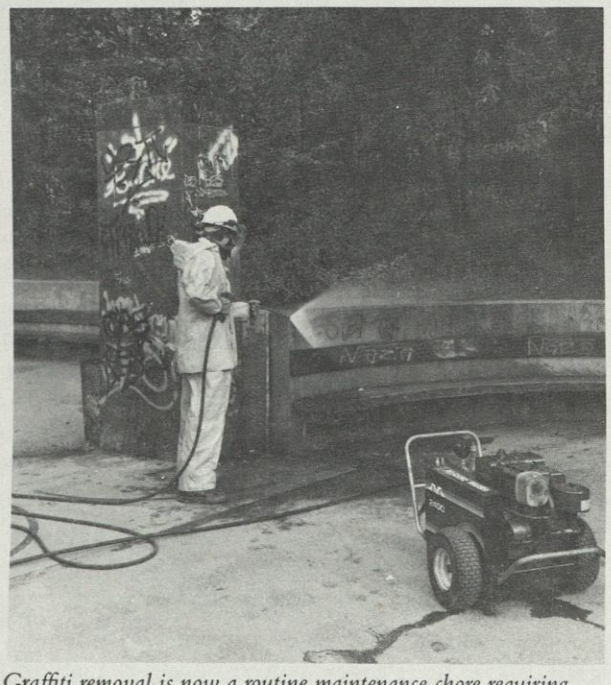
streets and transverse roads was no longer screened as a few species of hardy weeds and scraggly shrubs succeeded the once rich palette of plant growth.

In the midst of this desolation, restoration work began. In 1979, the Sheep Meadow was completely resodded and the Southeast Corner of the Park totally relandscaped. The Dairy was restored to its Victorian Gothic appearance, to be operated by the Conservancy as a visitor information center and exhibition hall. Work was also started on the badly abused Belvedere. More important perhaps than anything else, Conservancy-funded crews composed primarily of young craftsmen and graduates of horticultural training programs began to prune trees, plant shrubs, remove graffiti and rebuild the Park's vanished rustic shelters.

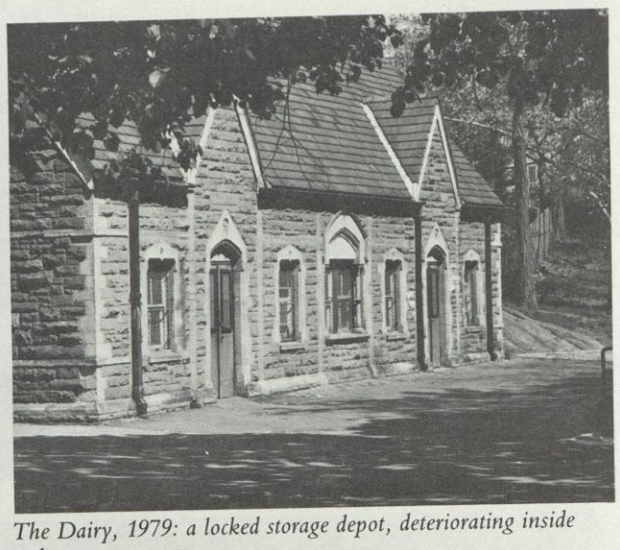
As the city recovered from its fiscal crisis, more capital projects were begun with public funds. The Park soon began to resemble a patchwork of healthy landscapes amidst bare, eroded ground. The bright spots, of course, made the decrepitude of the rest of the Park all the more apparent. They also gave the public tempting glimpses of how the Park as a whole might be saved. Soon it became clear that an individual project-by-project approach was not adequately addressing the problems of the Park, many of which are interrelated.

Central Park is not a free-form mélange of landscapes and recreational facilities. It was designed to be a single unified park and still functions as one. The boundaries are artificial, but the Park within them is organically whole, a collection of integrated and interconnected systems of drainage, hydrology, traffic circulation, architecture and vegetation. Decay involving one area of the Park involves neighboring sections as well. In order to restore Central Park properly, it would be essential to see it not piecemeal but whole.

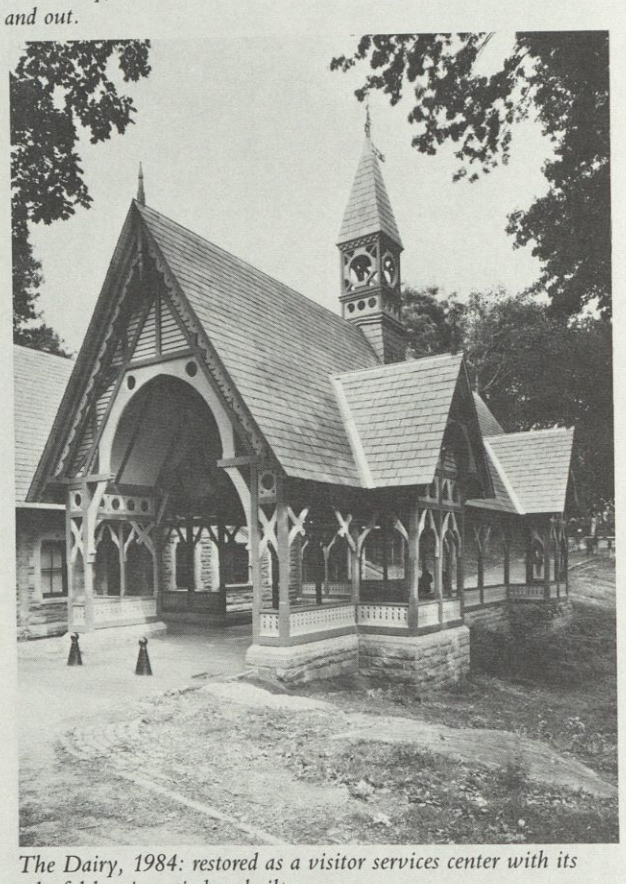
In the past, expensive capital projects in Central Park and elsewhere had been followed by vandalism and deterioration. For a restoration plan to be effective, it would have to be coupled with a management plan. For such a plan to be realistic and workable, the people who actually run the Park on a day-to-day basis would have to be closely involved. The Central Park Administrator therefore personally took charge of the planning process, hiring staff and consultants to produce the plan and collaborate closely with other managers within the Parks Department. In 1981, a planning team was formed: in-house managers and staff and outside consultants brought their backgrounds and expertise to the task at hand.



Graffiti removal is now a routine maintenance chore requiring specialized skills and techniques.



The Dairy, 1979: a locked storage depot, deteriorating inside and out.



The Dairy, 1984: restored as a visitor services center with its colorful loggia entirely rebuilt.

The Planning Process

The planning process was divided into three stages: 1) survey and analysis; 2) synthesis and interpretation; 3) planning and implementation.

For the first stage, the planning team looked at the Park as a whole and dissected it into its components—topography, geology, soils, hydrology, drainage, utilities, circulation, vegetation, wildlife, architecture, uses, management and security—studying each as it is today and as it was at other times in its 125-year history. What emerged from this first stage was not just a picture of the Park in unprecedented detail but also a narrative history of 125 years of change and continuity at each level.

In the next stage, the planning team analyzed the interrelation between such things as pedestrian circulation and vegetation, vegetation and wildlife, and drainage and soil erosion, weighing the impact of each upon the other. Patterns emerged, and linkages became apparent. In this second stage, the team sought to define parkwide problems.

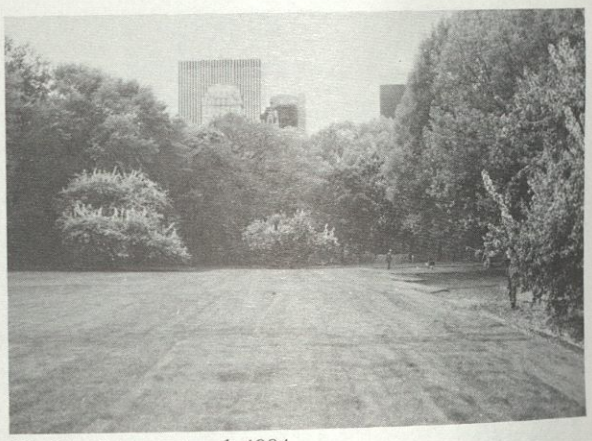
In the third stage, the team proposed solutions to the problems identified in the second stage. The recommendations are of two sorts: general parkwide recommendations and specific proposals for individual sections or park precincts. These precincts, or project areas, are defined by watersheds, "viewsheds" and certain artificial barriers such as roads and drives.

In order to establish project priorities, the planning team developed a set of weighted criteria and assigned numerical values to each. The project areas were then ranked; those with the highest number of points were the ones deemed most in need of early restoration. Out of necessity, certain projects clearly had to be done in sequence: restoring high ground, for instance, before working on downslope areas in the path of runoff and erosion.

Though the criteria were all fairly objective, a realistic view required that the plans be reassessed in light of political and financial considerations. How many capital and in-house construction projects could be financed in a given fiscal year? What were the expectations of public and private funding? What would the increased management burden require? With all these factors in mind, a project implementation schedule, or phasing chart, was drawn up.

The Product

For the first time in 125 years, Central Park has been examined in minute detail from head to toe, somewhat like a patient on an operating table. Its features have been enumerated and catalogued (including a computerized inventory of its 24,000 trees), and the health of each of its vital systems has been assessed. The combined studies performed over the last three years form a unique body of information. It is safe to say that no other landscape in the world has had its physical composition, its management and its uses so thoroughly scrutinized.



The East Lawn restored, 1984.

The most visible result of this effort is the management and restoration plan recommended in these pages and the physical and management improvements already apparent in the Park itself. But of great importance, too, is the methodology devised for dealing logically and rationally with the complex set of factors acting upon Central Park and, for that matter, upon other large urban parks as well.

The remedies proposed in this report do not constitute a final blueprint. They are subject to continual review. Recognizing the limitations imposed by funds available and by political realities, the planning team has labeled some of the proposals short term and others long term. Students of this plan will find that it is conservative in its approach. If it is biased, it is biased in the direction of historic preservation. This reflects a contemporary inclination to reinvest in the capital plant of our inner cities, their notable buildings and other civic embellishments. Tradition, and the fact that the Park's original design was flexible enough to accommodate changing patterns of use, made it unnecessary for the present planning team to suggest any radical alterations in the Park's general design.

"Central Park's historic legacy is unique: it is America's first designed urban park and a model for hundreds of other municipal parks..."

"Respect for the work of Olmsted and Vaux does not require a restoration correct to the last detail but rather the use of their plan as a reference and guide."

Guiding Principles for Managing and Restoring Central Park

The six topics dealt with below are the major concerns that face all parks, and they are the principles upon which all the recommendations in this report are based.

Protection and Preservation

If a park is to remain a park and not become something else, it is imperative that its custodians not accept invasion by other interests, however well-intentioned.

Though it has fared better than other American parks in this respect (partly because of a strongly protective attitude toward it throughout its history), Central Park has nonetheless had its legacy of intrusions—intrusions that have sometimes adulterated the essential experience the Park was designed to provide. Public-spirited benefactors are necessary to the Park's future, but it is important that their gifts be consistent with the planned programs and projects.

While protecting a park from outside intrusions, managers also must preserve it from abuses within. All park managers know how insistent the demands of their recreational constituents can be. It is important that these demands be weighed against the Park's dominant character and overall user preferences. Eighty percent of the visitors to Central Park, for instance, cherish it for its scenic relief from the dense city. Therefore, its preservation requires that no further portions of it be dedicated to single-interest groups. Their needs can and should be satisfied outside the Park.

Historic Character

Public parks are often repositories of a people's cultural heritage. This endowment must be preserved, though not slavishly. The historic *intentions* of a park can be as important as its physical features, sometimes more so.

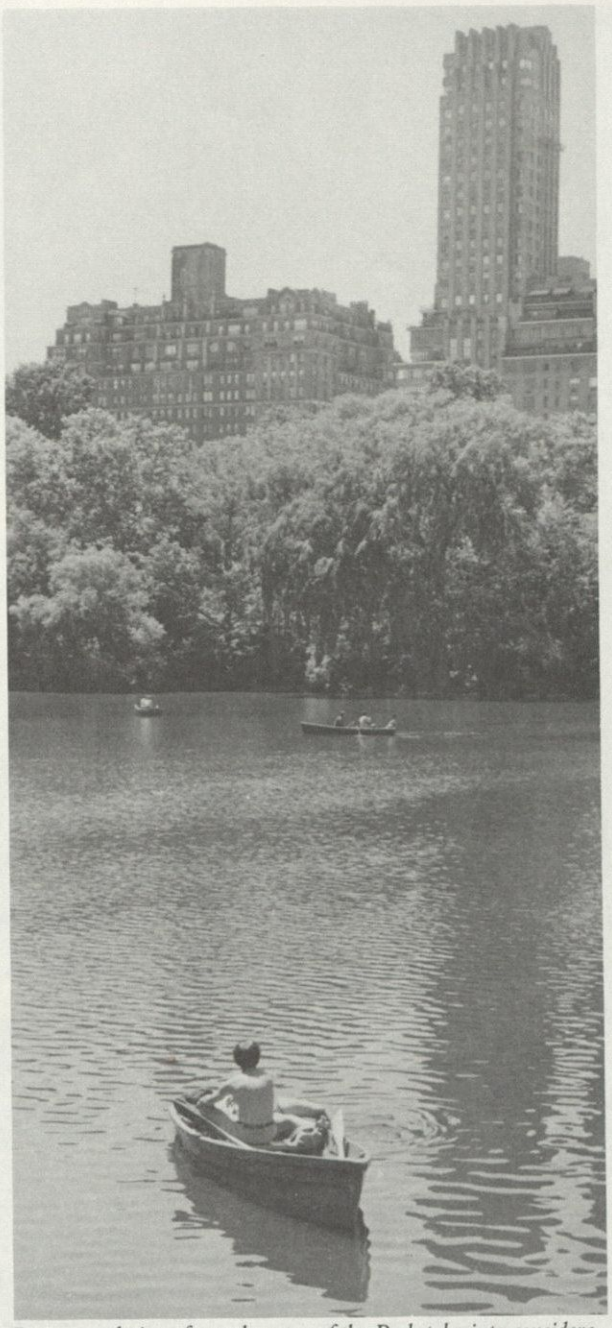
Central Park's historic legacy is unique: it is America's first designed urban park and a model for hundreds of other municipal parks built in young cities all across the country in the years following the Industrial Revolution. Central Park signaled the birth of the profession of landscape architecture in the United States, and its designers have been recognized belatedly as formative influences within the American culture. Respect for their work does not require a period restoration correct to the last detail but rather the use of the Greensward Plan, wherever possible, as a reference and guide.

Public Safety and Enjoyment

Parks are frequently perceived, rightly or wrongly, as zones of opportunity for criminals. Policing techniques that are designed for city streets are not necessarily appropriate in parkland; patrolling and surveillance methods should be specifically tailored to the park terrain.

But it is not enough that a park be safe. It must *appear* to be safe as well. Vandalized structures and park furniture create an atmosphere of general lawlessness and gloom. A program of systematic repairs is the best way to cope with the problem. Meanwhile, a constant flow of public information should let the public know about services and activities—and that their park is alive and well. Increasing the public's interest in, respect for and enjoyment of a park will help make it safer.

Central Park has long suffered an undeserved degree of notoriety. The Park is, as our security analysis shows, comparatively safe—safer than the precincts surrounding it. But because most crimes that occur in the Park represent random rather than premeditated violence, and especially because they



Recommendations for each sector of the Park take into consideration not only the aesthetic and physical aspects of the place but the demand for specific activities as well.

are often sensationally publicized, Central Park's reputation as unsafe has been greatly exaggerated. The present plan includes proposals, some already in effect, for improving both the security of Park users and their sense of safety.

Maintaining Cleanliness and Structural Soundness

A dirty, littered park encourages careless, inconsiderate behavior on the part of its visitors. Good routine maintenance and consistent public education builds respect for the park. The abdication of this responsibility inevitably invites the deterioration of vegetation, structures and amenities, as well as the demoralization of visitors and work force.

Our plan for Central Park seeks to keep it clean through cost-effective procedures for prompt litter removal. It also recommends preventive maintenance and timely repairs to ensure the soundness of all structures, infrastructures and amenities.

Horticultural Beauty and Ecological Health

For most parks, the quality of "parkness" lies in the appearance of their trees, turf and water. Good forestry and horticultural practices—and careful relandscaping where necessary—are essential to ensure a park's continued beauty and health.

In the case of Central Park, these tasks are made all the more urgent because of the heavy volume of use—more than 14 million visits a year. Central Park will always be in need of restorative landscaping, and therefore our plan recommends that the recently reinstituted landscape architectural staff be maintained and greater horticultural variety be promoted. This plan also recommends that, because Central Park is a model for other parks, it continue to serve as a laboratory for improved practices in turf management, tree care and soil development.

Functional and Structural Integrity

The purpose of good park planning is to place all parts into a harmonious relationship. *Ad hoc* additions and repairs unrelated to the parkwide system are merely palliative; they may, in fact, create future problems.

Central Park suffered too long from a piecemeal approach to its landscaping and an uncoordinated management effort. The creation of the office of Central Park Administrator has proved to be an effective remedy for the fragmented administration of design, maintenance and operations that prevailed in the past. The Conservancy has provided some necessary consistency of purpose as well as critical supplemental funding. But there is still a great deal of jurisdictional overlapping in the way Central Park is being run. We recommend a clearer, more purposeful decentralization of the Park's management under the direction of the Administrator, the official who is accountable to both the Parks Commissioner and the board of the Conservancy.

Priority Matrix

Each proposed restoration project for Central Park was evaluated according to the set of criteria listed below.

1. *Appropriateness:* Do the specific elements of the project "fit" aesthetically, historically and functionally within Central Park, or do they belong outside the Park?

2. *General Importance:* How is the project area important: a. aesthetically (scenic qualities and visibility)? b. historically (design heritage and uniqueness)? c. functionally (degree of public use and appreciation)?

3. *Public Demand:* How well does the project satisfy one or more public demands as interpreted from user survey and demographic data? Is the proposed use the best in light of other competing demands?

4. *Location:* Is the project area in a location that will: a. improve a section of the Park that has been neglected? b. benefit areas beyond the project boundaries? c. fit into the restoration of a larger section of the Park? d. be free from the effects of erosion from surrounding areas of higher elevation?

5. *Condition:* How badly deteriorated is the project area according to the following checklist?
A. Ground plane: 1. erosion; 2. drainage; 3. soil compaction; 4. human abuse.
B. Circulation and amenities: 1. paving; 2. benches; 3. lights.
C. Vegetation: 1. weed growth; 2. plant diversity; 3. plant health.
D. Architecture: 1. structures; 2. maintenance and operations; 3. user services.
E. Water bodies: 1. health; 2. historic perspective.

6. *Management requirements:* What resources are needed to maintain, secure and administer the project area?

7. *Funding:* Are funds realistically available for the project from city or private sources?

A Park for the People

"...more than 3 million people use the Park each year, making upwards of 14 million visits."

A 1982 survey revealed that 68 percent of the people in Central Park on weekdays came alone. On weekends, solitary visitors account for 48 percent of Park visitors.

Central Park was conceived as a democratic experiment, a people's park. It was designed to provide the citizens of the growing city with relief from urban tension by means of tranquil "rural" scenery—a place to stretch both legs and minds. Oddly enough, at the time the Park was proposed many people were doubtful that this peaceful, democratic vision for it would succeed. An 1867 *New York Herald* editorial protested:

"It is folly to expect in this country to have parks like those in old aristocratic countries. When we open a public park, Sam will air himself in it. . . .He will knock down any better dressed man who remonstrates with him. He will talk and sing, and fill his share of the bench, and flirt with the nursery maids in his own coarse way. . . .Is it not obvious that. . .the great Central Park will be nothing but a great beer-garden for the lowest denizens of the city, of which we shall yet pray litanies to be delivered?"

Once the Park opened, however, it soon became clear that the democratic experiment was an overwhelming success. Olmsted himself noted with satisfaction that he saw the same people who had foretold doom for Central Park making more use of it "than they do the opera or the church."

Today, more than 3 million people use the Park each year, making upwards of 14 million visits. Surveys reveal that Park users are representative of the city's ethnic and racial demographics: 55 percent of the users are white, 20 percent are black, 19 percent are Hispanic and 6 percent are Asian. Approximately 2 percent of the visitors are physically handicapped, a proportion that is likely to increase as "barrier free" facilities in the Park are completed.

The obvious success of Central Park as a common meeting ground of the city's social classes is only one of the important benefits that Olmsted reckoned against the cost of the Park. Another benefit is the purported contribution of the Park environment to the mental and physical health of New Yorkers, an assertion that continues to be made today.

As to what its visitors do in the Park, broadly speaking, 80 percent use it for passive recreation; the other 20 percent take part in active sports or some sort of strenuous exercise.

Table 1

Major Activities of Central Park Visitors

Activity	Weekday	Weekend	Total
Relaxation	54.1%	59.7%	57.7%
Sports	9.5%	8.7%	9.0%
Water	2.7%	2.3%	2.4%
Nature	4.2%	3.3%	3.7%
Wheels	6.9%	7.4%	7.2%
Music	4.8%	5.7%	5.3%
Commute	6.5%	2.2%	3.8%
Zoo	5.6%	4.5%	4.9%
Playgrounds	2.8%	3.7%	3.4%
Drugs/Deviance	2.8%	2.4%	2.6%

The striking fact is that virtually all of the most popular activities we observe in Central Park today were going on there before the turn of the century: concerts, boating, ball playing, horseback riding, ice-skating, tennis, strolling, people watching, nature watching and picnicking. The major difference is that increasing portions of the Park have been dedicated to exclusive uses rather than left as unprogrammed space for the enjoyment of all. The distinction between active programmed use and unorganized passive use of the Park is, of course, particularly relevant to the issues of Park restoration. The 80 percent who use it for passive activities do so in a number of ways, most notably enjoying the presence of one another and simply

"In 1973, 13 percent of those interviewed thought the Park was 'safer than two years ago'; in 1982, 30 percent thought so."

Table 4
Contrast Between Weekday and Weekend Visitation in Central Park

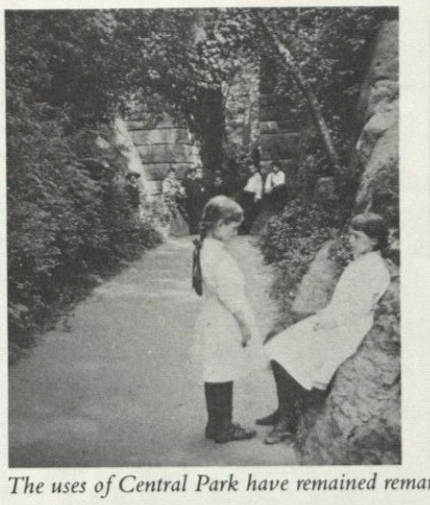
Respondent was:	Weekday	Weekend
Alone	63.8%	46.7%
With family	9.0%	14.2%
In a couple	20.0%	30.1%
With a group of friends	3.2%	4.7%
With a team	0.5%	0.5%
With a tour	0.5%	0.2%
Other	3.5%	3.8%

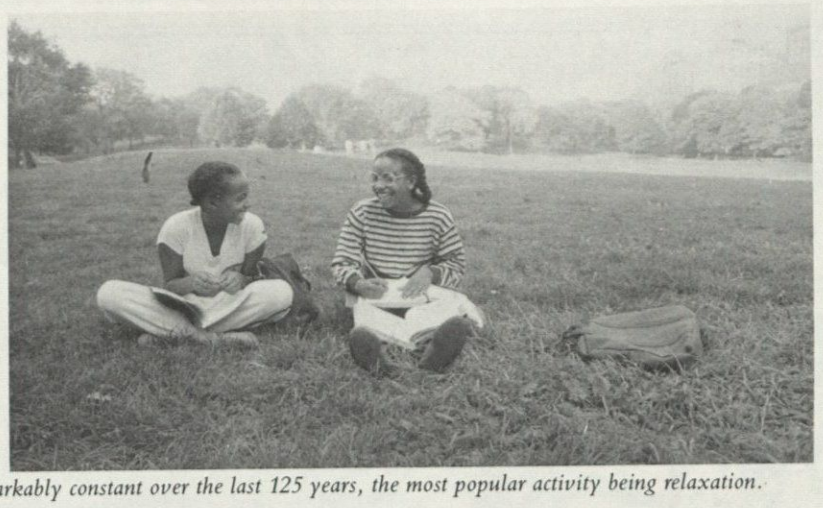
Data on visitor use was collected in the summer and fall of 1982.

Table 2
How Visitors Relax in Central Park

Type of Passive Activity	Percent	Rank
People Watching	25.1%	1
Relaxing	20.0%	2
Thinking	15.6%	3
Taking in the Park	10.7%	4
Reading	10.1%	5
Wandering	6.1%	6
Sun-bathing	4.5%	7
Waiting	3.9%	8
Picnicking	3.3%	9
Sleeping	0.8%	10

Data on visitor use was collected in the summer and fall of 1982.





The uses of Central Park have remained remarkably constant over the last 125 years, the most popular activity being relaxation.

relaxing. (See Table 2.)

At least 500,000 visitors each year are out-of-towners, which makes Central Park one of New York City's three top tourist attractions, along with the Statue of Liberty and the United Nations.

Manhattanites now account for 68 percent of the people using the Park. Though this should not be surprising, it represents a significant increase from 55 percent ten years ago, despite a decline of 10 percent in the population of the borough in that time.

Several factors account for this, chief among them the perception that the Park is safer now than it used to be. In 1973, 13 percent of those interviewed said they thought the Park was "safer than two years ago"; in 1982, 30 percent thought so. Greater presence of rangers and policemen as well as cleanup and repair programs are largely responsible. In addition, the new popularity of jogging and fitness brings at least 5,000 people to the Park each day, lengthening the hours of heavy use and creating an atmosphere of safety.

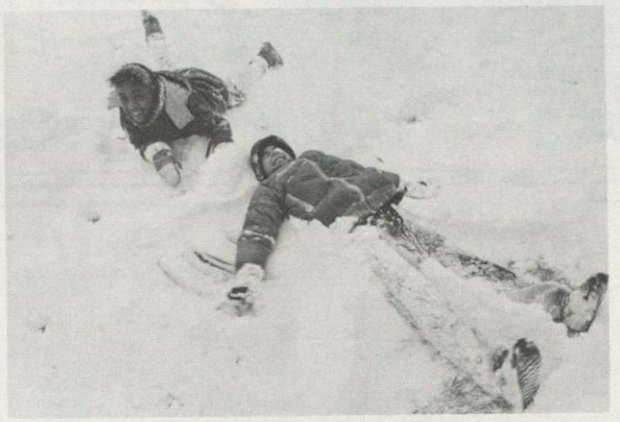
Table 3
Where Neighborhood Visitors Go in Central Park

Place Visited	Overall Rank	Percent of Neighborhood Residents Who Visit
Zoo	1	4.0%
Conservatory Water	2	8.1%
W. 72nd St. Border	3	2.0%
W. 80th/W. 94th Sts.	3	8.3%
Reservoir	4	5.5%
Dairy	5	11.0%
E. 66th-77th Sts.	6	21.0%
Heckscher Ballfields	7	22.0%
North Meadow Ballfields	8	64.0%
Sheep Meadow	9	9.1%
Harlem Meer	10	50.0%

Benches once had mudguards, to protect ladies' skirts.

. . . otherwise, not much has changed.

Winter in the Park, then . . .



. . . and now.

Biking, though hardly new, was once a more sedate activity . . .

. . . than it is today.

Manhattan's population would eventually surround the Park has long since come true.

People who live near Central Park use it most often, and they use it in different ways than do those who come from farther away, as a comparison of the most popular places in the Park makes clear.

There is also a marked contrast between weekend and weekday Central Park visitors. Weekday visitors tend to be solitary individuals, while during the weekend the Park is more often given over to social occasions, family outings and courtship.

A detailed picture of who uses the Park and how they use it—as shown in the preceding surveys—is essential for any effective restoration and management plan. For example, surveys show that over the past decade there has been a significant reduction in the number of children under the age of 18 who use the Park. This coincides with a decline of 80,000 children under 18 living in the neighborhoods adjacent to the Park. The end of the "baby boom" is one reason for the population shift; another is the increasing trend in Manhattan toward childless couples and older "empty nest" couples who have returned to the central city from elsewhere in the metropolitan area. What this means for Central Park is a diminished need for playground spaces, a development that should be taken into account in planning and allocating park space in the future.

"...unregulated and unprecedented overuse of the Park led to widespread destruction of the landscape by trampling, erosion and vandalism."

Five thousand joggers use the Park each day.

The Ages of Central Park

Until the turn of the century, the Park was not "programmed" in any specific sense. It offered seemingly infinite options for quiet amusement. Essentially, it was an oasis of nature in an urban setting. From its inception until around 1900, Central Park served primarily as a scenic pleasure ground. But as public attitudes changed, so did the Park.

The reform movement in the early years of the twentieth century left a lasting imprint on Central Park. At the same time as improvements were being made in city housing and in working conditions, American parks were being designated as centers for public recreation. Games, races and tournaments were held in the Park under the auspices of a new kind of parks employee: the recreation leader. Increasingly, green meadows were sacrificed for ballfields and tennis courts, and some leafy border areas began to be converted into playgrounds.

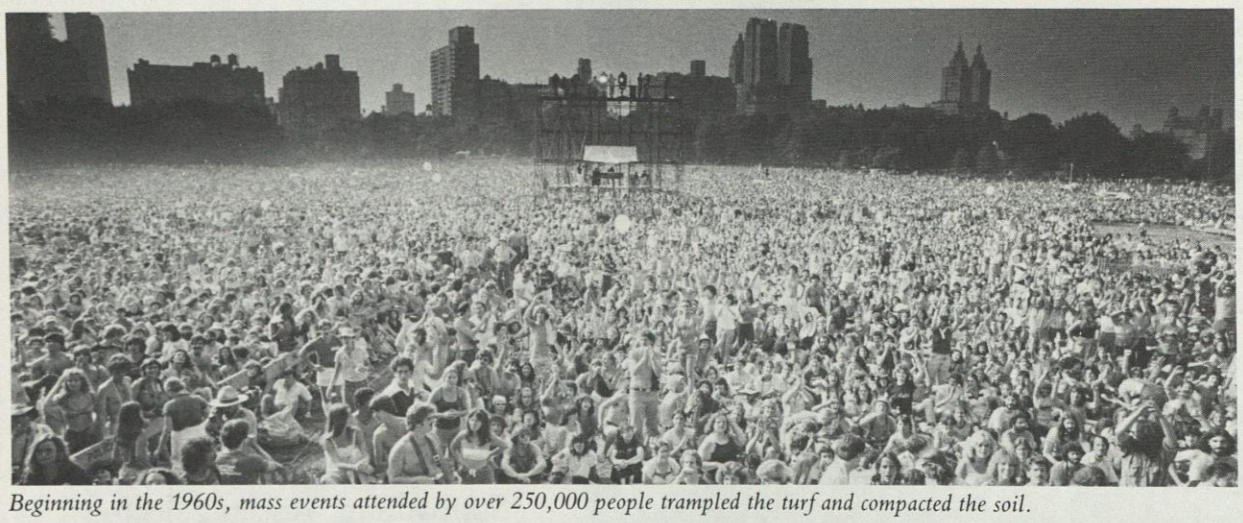
During the tenure of Parks Commissioner Robert Moses (1934-1960), recreation became synonymous with facilities and equipment. Hard-surface, man-made terrains came to Central Park in the form of many more concrete and asphalt playgrounds; two rinks were added to water bodies where skating had previously been on natural ice; and other structures were converted or built for such entertainment as puppets, Shakespeare and chess. In this period, the Park was seen as a multifaceted recreational facility rather than a tranquil natural preserve. For the increasingly secure middle class of the city, nature could best be experienced from the now-ubiquitous motor car and a drive in the country.

The mid-1960s marked the beginning of a period of maximized use in which the Park was chosen as a site for mass gatherings—free outdoor concerts, "be-ins," "happenings," rallies and festivals that drew upwards of 250,000 people. This unregulated and unprecedented overuse of the Park led to widespread destruction of the landscape by trampling, erosion and vandalism.

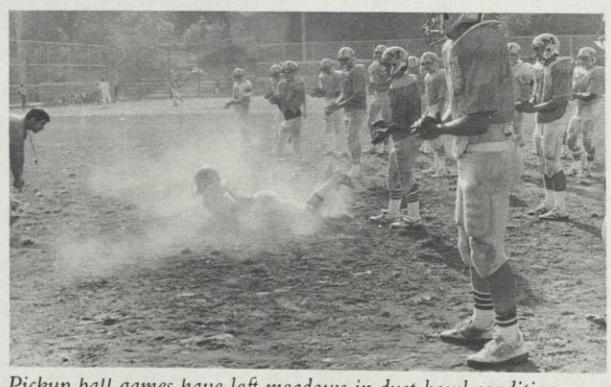
Coupled with this permissive style of management was a lack of rule enforcement, which in turn fostered the general impression that there were no Park rules to be obeyed. By 1976, the Central Park environment and the morale of its employees and enthusiasts had reached a nadir. Unregulated overuse had not only caused deterioration but had affected how the Park was used. Overuse in some areas had driven away the intended clientele. Lawns and meadows were "rubbed out" by concerts and *ad hoc* sports games; they became barren hardpan and were no longer available to picnickers and sunbathers. Thus, areas of the Park that had previously been populated and enjoyed throughout the day became partially deserted. Ironically, overuse in many instances had created underutilization. In addition, the dedication of portions of the Park's landscape to special interest groups had more and more deprived the general Park visitor of free and flexible open space as well as natural scenery.

And as recreational habits and tastes changed over time, some facilities fell into disuse, leaving valuable pockets of the Park virtually abandoned. Clearly, it was time to reverse the Park's decline.

Now a new era of Central Park's management history has begun. It is a period of restoration and rehabilitation, characterized by a return to the Park's original naturalistic design principles and informed by a detailed inquiry into the needs and preferences of its users.



Beginning in the 1960s, mass events attended by over 250,000 people trampled the turf and compacted the soil.



Pickup ball games have left meadows in dust-bowl condition, unsuitable for any use at all, including sports.

Goals

The Park exists to be used by people, but it must not be further abused. The present plan, therefore, emphasizes balance. Its guiding policies favor the activities of the majority of its users—a huge unorganized constituency of people who come to enjoy the Park simply as a park, for no particular reason other than relaxation. The plan holds the line on encroachment and urges a return to unprogrammed green spaces wherever possible.

The uses that the plan recommends are tailored to the Park's carrying capacity. The plan assesses resource allocation and asserts that manpower and other available resources should not be used for an endless series of special events at the expense of maintaining the Park's general overall cleanliness, beauty and ecological health. De-emphasizing large structured events will make it possible to increase allocation of resources for day-to-day Park security and visitor services. Fewer events can be translated into cleaner rest rooms and more Park rangers and enforcement patrol officers on routine daily assignments.

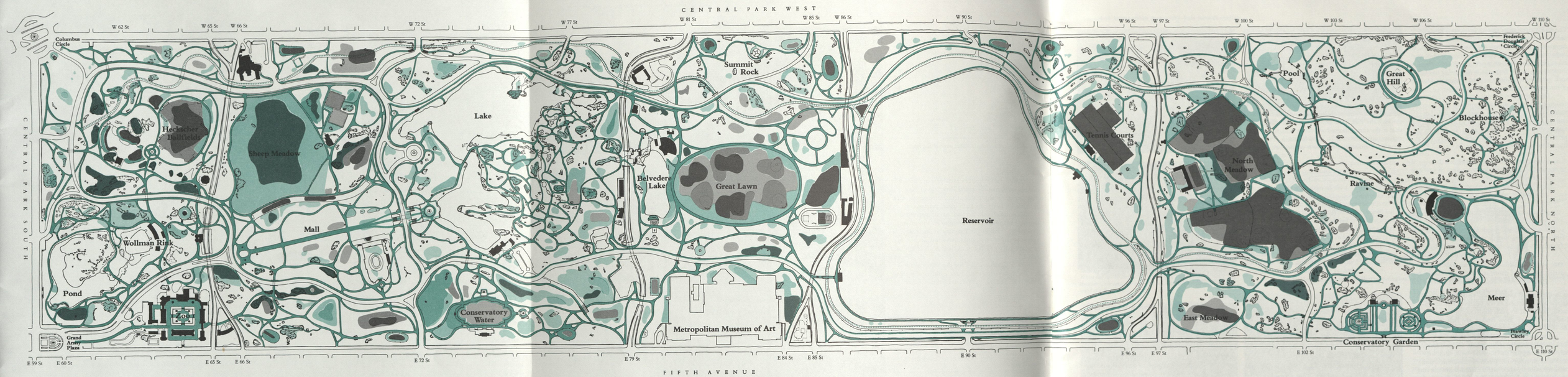
Recommendations

- The tradition of Philharmonic and Metropolitan Opera concerts on the Great Lawn is now well established and should be continued, but art "happenings," mass concerts and large political rallies—events that attract 250,000 or more—should be forbidden.
- Hard-surface activities such as tennis, basketball and baseball should be gradually removed to locations outside the Park. The demand for these facilities and for soccer fields will continue to increase and should be perceived as a city planning issue rather than a Central Park problem. As new baseball fields are opened outside the Park, some of the 25 ballfields in the Park should be phased out. This would increase the opportunities for picnicking, kite flying, Frisbee playing, sunning and reading that now exist only on the Sheep Meadow and a few small lawns.
- No new playgrounds, recreation facilities or structures should be built. Those presently in Central Park should not be expanded in size. Where possible, some playgrounds should be relocated to the triangles between transverse road entrances; those that are not needed should be removed as part of the parkwide effort to eliminate paved surfaces wherever possible.
- Parking lots and other paved surfaces should be eliminated whenever their existence cannot be justified.
- Rest rooms and other visitor services that are presently out of service or not functioning due to lack of manpower should be staffed and reopened. Where repairs are needed, they should be made.
- The number of rangers and police officers on regular park patrol should be increased. Their surveillance and enforcement techniques should be tailored to fit the unique requirements of the Park and exempted, if necessary, from standard New York Police Department procedures.
- New radio wave police call boxes should be installed throughout the Park.
- A clear set of Park rules should be established, posted and enforced.

Cherry Hill, the shores of Belvedere Lake, the Conservatory Water, the Pool and the Meer). Prominent rock features serve passive uses (the Hernshead on the Lake's western shore, the Blockhouse at the northern end, Umpire Rock in the Southwest Corner), as do small open glades in the midst of woodland (north of the Great Hill and east of the Loch).

A comparison of this map and the Ground Plane map on pages 32-34 will show that passive activities take place on grass, benches or rocks, never on bare ground.

The Pace of Activity in Central Park



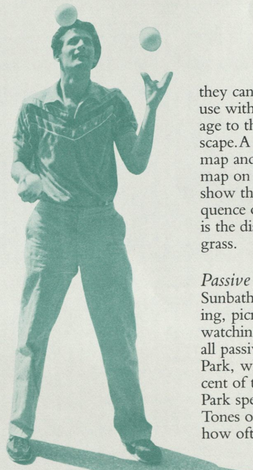
The information used for this map was gathered on two days in 1982: Thursday, August 26, a clear, humid day in which temperatures reached the mid-80s; and Sunday, October 10, a crisp, clear day with temperatures in the 50s. Each was a typical good-weather day. No large events were planned in the Park on either occasion. For purposes of observation, the Park was divided into ten sections, each of which was "swept" four times during the day by a team of two people.

Active Uses

The designation includes ball games, rowing, jogging, horseback riding, ice-skating, roller skating and biking. The gradations of gray indicate the frequency with which the space was used during the day, from infrequently (light gray) to constantly (dark gray.)

The darkest patches—the areas most heavily used for active recreation—are invariably on flat open ground: the Heckscher Ballfields, the Great Lawn, the North Meadow, the East Meadow, the tennis courts and numerous lawns and playgrounds along the Park perimeter.

Roadways are corridors of active recreation, and because of their hard surface, they can support this heavy use with virtually no damage to the Park landscape. A comparison of this map and the Ground Plane map on pages 32-34 will show that a major consequence of heavy active use is the disappearance of grass.



Passive Uses

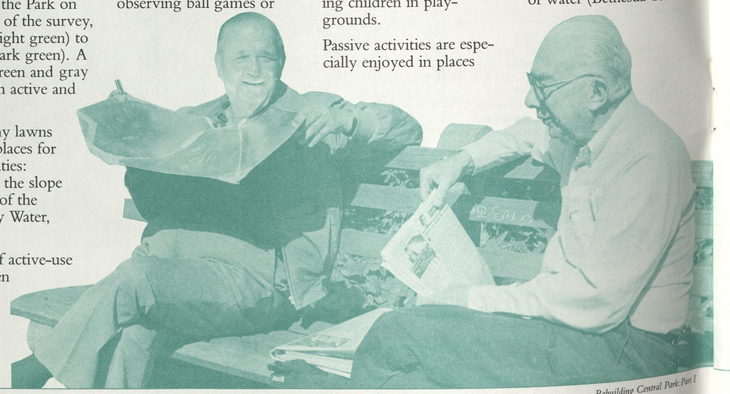
Sunbathing, resting, sleeping, picnicking, people-watching and strolling are all passive uses of Central Park, which is how 80 percent of those who enter the Park spend their time. Tones of green indicate how often people were so occupied in various locations around the Park on the two days of the survey, from often (light green) to constantly (dark green). A mixture of green and gray indicates both active and passive uses.

Sloping sunny lawns are favorite places for passive activities: Pilgrim Hill, the slope to the south of the Conservatory Water, for instance.

Perimeters of active-use areas are often occupied by passive users—spectators observing ball games or ice-skating, parents watching children in playgrounds.

Passive activities are especially enjoyed in places with pleasant views, often of water (Bethesda Terrace, Cherry Hill, the shores of Belvedere Lake, the Conservatory Water, the Pool and the Meer). Prominent rock features serve passive uses (the Hernshead on the Lake's western shore, the Blockhouse at the northern end, Umpire Rock in the Southwest Corner), as do small open glades in the midst of woodland (north of the Great Hill and east of the Loch).

A comparison of this map and the Ground Plane map on pages 32-34 will show that passive activities take place on grass, benches or rocks, never on bare ground.



Circulation: Drives, Paths and Bridle Trail

The traffic circulation system in Central Park, quite unlike the street plan of the surrounding city, was designed as a recreational and scenic work of art. It leads visitors along a carefully arranged trail of visual experiences, through sunny meadows and shaded woodlands, from the water's edge to high rock outcroppings, from rugged landscapes to ones of intense architectural sophistication.

The inspiration for this approach to landscape design came from landscape paintings of the seventeenth century, particularly those of Claude Lorrain, and from the landscaped parks of the eighteenth-century English aristocracy. In both the paintings and the living landscapes, the eye was attracted from one view to another. In Central Park, as in the English estate parks, vistas were meant to appear and disappear as the observer moved onward, beckoned by such landscape ornaments as Bethesda Terrace, Bow Bridge, the Belvedere, and the bold rock outcrops crowned by rustic shelters.

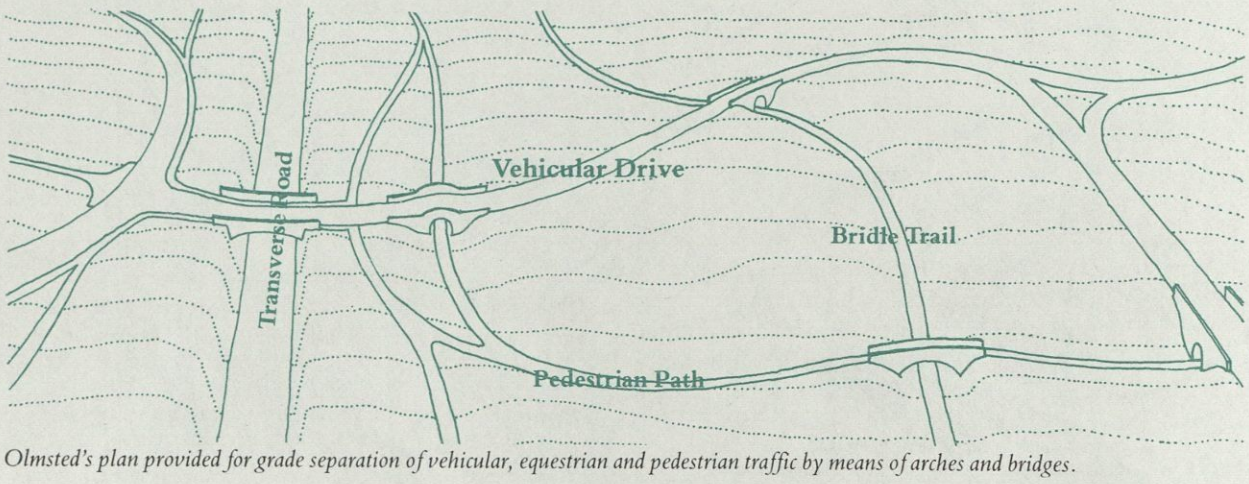
The ingenuity of Olmsted and Vaux's Central Park circulation plan is legendary. Given a long, narrow rectangular site to work with, they succeeded in creating an illusion of randomness and rural freedom by their artful placement of curving drives, paths and a Bridle Trail. Each type of path or roadway was separated from the others, passing over or under them by means of arches and bridges. In this way, vehicles, pedestrians and horseback riders could circulate within the Park without ever intersecting with one another. None of the 36 arches and bridges used to carry out this scheme are alike; the designers used the opportunity to create an exuberant mélange of architectural motifs in a variety of materials—cast iron, rubble stone, cut stone, brick, granite, brown stone and wood.

It was a major act of foresight that prompted Olmsted and Vaux to build four sunken east-west transverse roads so that crosstown city traffic could tunnel swiftly and unobtrusively under and through the Park. The truly remarkable thing was that at the time Olmsted and Vaux designed the transverses, there was no need for them. The city lay almost entirely to the south of the Park; the land to the east and west was still undeveloped. In time, however, the city enveloped the Park on all sides, and today the transverses (at 65th Street, 79th Street, 85th Street and 97th Street) are crucial, heavily used thoroughfares. They permit vehicular traffic to flow smoothly across town, virtually out of sight, without interrupting the scenic impressions and the recreational pleasures of the Park.

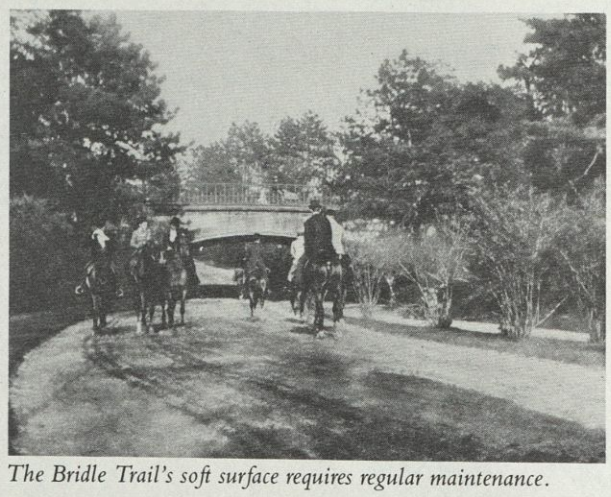
The Park's paths, drives and Bridle Trail were not intended to be design elements themselves but rather to be inconspicuous routes by which the carefully orchestrated sequence of landscapes could be experienced. Their widths were scaled according to the volume of use they were to bear, and the landscapes connected by them differed according to the mode and speed of travel going through. Those adjacent to the drives were broad and sweeping; beside the paths they were more intimate in scale and detailed in design; along the Bridle Trail they became rugged and picturesque. Views were composed, as they had been in landscape paintings, with attention to foreground, middle ground and far ground. The materials of the artists' palette were water, trees, shrubs, lawn, rocks and the topography itself. Individual objects, even the most charming works of architecture or the noblest or most exotic trees, meant nothing by themselves; composition was everything.

Olmsted's scenic ideal—foreground, middle ground, background.

Special path detailing: stone steps and pebble gutters for a Ramble walkway.



Olmsted's plan provided for grade separation of vehicular, equestrian and pedestrian traffic by means of arches and bridges.



The Bridle Trail's soft surface requires regular maintenance.

Inscope Arch: Passages under the Drive are all masonry, each a different design.

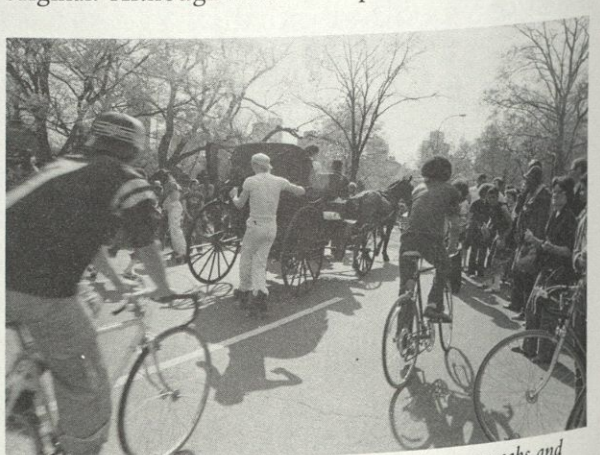
Bridge #28: Pedestrian arches over the Bridle Trail are all cast-iron, and no two are alike.

Change

People still come to Central Park as tourists, to wander without a specific destination and to be uplifted by the moods induced by scenery. But many also head for specific recreational facilities by the shortest possible route—not always on the established paths. In addition, more people are now playing sports or engaging in other activities that cause them to leave the circulation system and distribute themselves onto the landscape. This errant, off-path circulation has yet one more cause: as the stone arches have grown decrepit, dank and dark, their entrances partly obscured by overgrown vegetation, pedestrian circulation has chosen to move around, rather than through, them.

Although Olmsted and Vaux had brilliantly anticipated the need for crosstown vehicular traffic through the Park, they did not foresee that a strong east-west pedestrian impulse would develop as neighborhoods grew up along the Park. Therefore, new pedestrian entrances had to be cut into the Park's perimeter wall at 61st, 66th, 79th, 90th, 93rd, 103rd and 106th streets on the west side and at 60th, 67th, 69th, 76th, 97th, 99th and 102nd streets on the east side.

One consequence of new facilities, new entrances and new pedestrian habits has been the creation of a well-defined second circulation system, one that has a greater east-west orientation than the original. Although some new paths have been in-



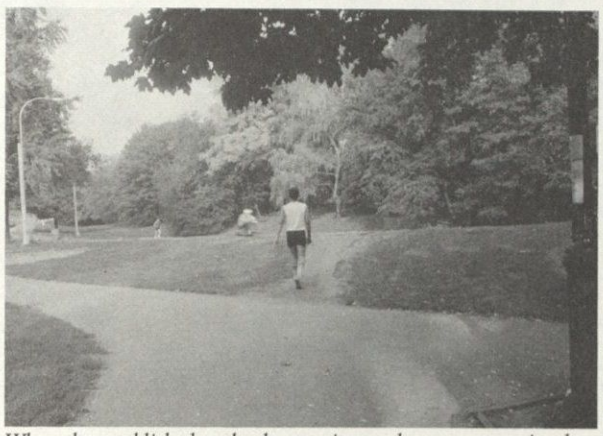
Circulation confusion: roller-skaters, bikers, hansome cabs and pedestrians share the Drive on a summer weekend.

"...'desire lines'—dirt foot trails trod across the landscape—are a serious cause of erosion."

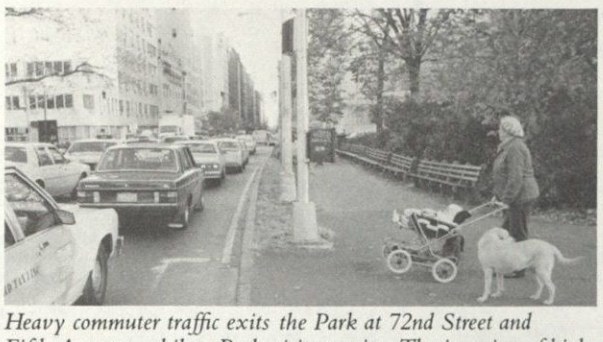
"The Park landscape has become more and more chopped up and webbed with asphalt."

stalled, others are *ad hoc* additions, or "desire lines"—dirt foot trails that cut across the landscape and cause soil erosion. Since many of these foot trails have been "legitimized" with pavement, the Park landscape has become more and more chopped up and webbed with asphalt. In many places, particularly at the southern end, lights, signs and benches are more in evidence than grass and trees.

The invention of the automobile has also had a substantial impact on the Park. At first, cars joined the carriages along the drives as part of the great, leisurely vehicular parade. But as cars multiplied and carriages went out of use, the drives became an extension of the city streets; automobile and taxi



When the established paths do not give ready access to major destinations, visitors create desire lines like this one, which leads toward the Reservoir.

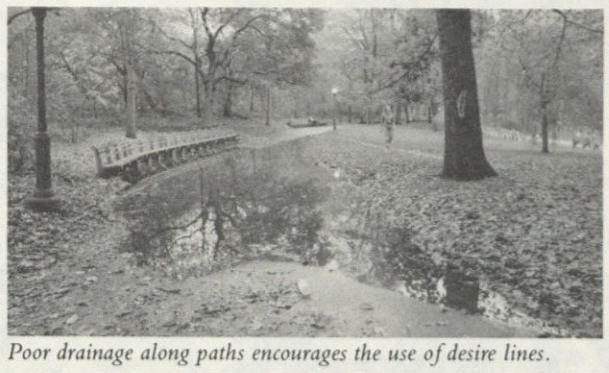


Heavy commuter traffic exits the Park at 72nd Street and Fifth Avenue, while a Park visitor waits. The invasion of high-speed, high-volume vehicular traffic was a 1930s' intrusion.

drivers sped through the Park on their way from one part of the city to another. For them, the Park has become not a destination but rather a short cut. The use of the Park drives as important traffic arteries was further encouraged by the addition of new vehicular entrances at Sixth and Seventh avenues on Central Park South and at 67th, 77th, 90th and 106th streets on Central Park West.

When one-way traffic was introduced in the city in 1934, the Park drives—by now an integral part of the city street system—were also converted to one-way use. At the same time, the carriage drives were reengineered to accommodate faster traffic. Among many alterations to straighten the leisurely looping course of the Drive was the smoothing out of the sweeping curve where the East Drive met the Center Drive at the south end of the Mall, the closing of the Center Drive itself and the burial of the Marble Arch at 65th Street.

The paving of new roads and paths created yet another problem. Originally composed of cinders and gravel with rough stone gutters, the paths were meant to be linked to the subsurface drainage system. Water seeped through the gravel to underground drainage pipes. In later years, when these routes were paved and curbed, water could no longer seep into the ground and had to be carried off by a series of catch basins and drainpipes. The catch basins and pipes of the new system are generally too small and, lacking proper maintenance in recent years, apt to become clogged



Poor drainage along paths encourages the use of desire lines.

with debris. Consequently, after every rain, there are large pools of standing water along the pathways and drives.

The Bridle Trail hugging the perimeter of the Park was for years one of its finest recreational features. But its soft surface requires constant maintenance, and large segments of the trail have become gullied, rocky and very dangerous. Unlike the paths and drives that have proliferated over the years, there is less of the Bridle Trail than there used to be, particularly in the southern sector of the Park, where the Zoo, Wollman Rink and the Heckscher Ballfields have preempted it. Today, this truncated part of the trail simply dissolves into a mud puddle near Seventh Avenue and Central Park South. Since horseback riders no longer enter the Park from the south, this part of the trail is scarcely used.

Goal

It is the purpose of this plan to reintroduce wherever possible the classic and original "experiential" aspect of the Park's circulation system, to restore the relationship between scenery and circulation.

Recommendations

Pedestrian Paths

- A functioning hierarchy of paths should be established with widths and paving materials determined by use and destination.
- Pedestrian traffic should be channeled and controlled, especially at the Park entrances, to avoid further trampling of the landscape. Off-path movement should be discouraged by a variety of design strategies: the use of grading, shrub planting, benches and pipe-rail fencing. Desire lines should be eradicated and replanted. In some places, the circulation system should be partially or completely redesigned to eliminate confusing or redundant path systems.
- The path systems serving non-original attractions, such as the Great Lawn, the tennis courts, and the two skating rinks, should be redesigned to meld more gracefully into the landscape.
- In areas rich in historic design, special attention should be paid to unique or unusual paving surfaces and edge detail.
- Paths that must accommodate maintenance vehicles should be built with negotiable curves and subsurface and surface engineering appropriate to the loads they must bear.
- Lighting should be concentrated along major pedestrian routes. Major cross-park paths should be well lit, as should evening and nighttime event spaces. However, the Park's woodlands and other secluded sections should not be lit at night in order to discourage nighttime visitation and to preserve their appearance as natural areas. The Mall and the entrance to the Park at Grand Army Plaza should receive distinctive lighting to distinguish and dignify them as major formal spaces. Special features, such as Bethesda Fountain and the Belvedere, should be illuminated for aesthetic and security reasons.
- Many of the arches that lead pedestrians under the drives are dank, dark and ill-used. They should be improved so that once again they serve their aesthetic and functional purposes. Drainage must be corrected, vegetation obscuring their entrances should be pruned or removed, and the arches should be invitingly lit.
- There should be at least one route to all major destinations accessible to handicapped people. Where steep slopes make this impossible, other arrangements should be made to accommodate the handicapped.

Drives

- In general, the drives should be downplayed as a thruway to midtown and the suburbs. Their use as a touring road for viewing the Park should be underscored by lowering the speed limit to 20 miles per hour. Traffic lights should be timed accordingly.
- Special graphics should be designed for use in all the city parks to reduce the visual disruption created by highway-style signs. The park-specific signs would furthermore deliver an unwritten message that these are not city streets and therefore the rules are different.
- Parking within the Park, including employee parking, should be reduced as much as possible. Essential parking should be made inconspicuous.
- The major entrances at the Park's four corners should be more visually dignified and inviting. They are desirable locations for monuments, in contrast to sites within the already statue-burdened Park. Special lighting and paving should underscore their importance.
- In the long term, the original curved course of the drives should be restored; the reinstitution of two-way traffic should be studied as well as the feasibility of closing the entrance drives at Sixth and Seventh avenues in order to reestablish the integrity of the Park landscape along its southern edge.

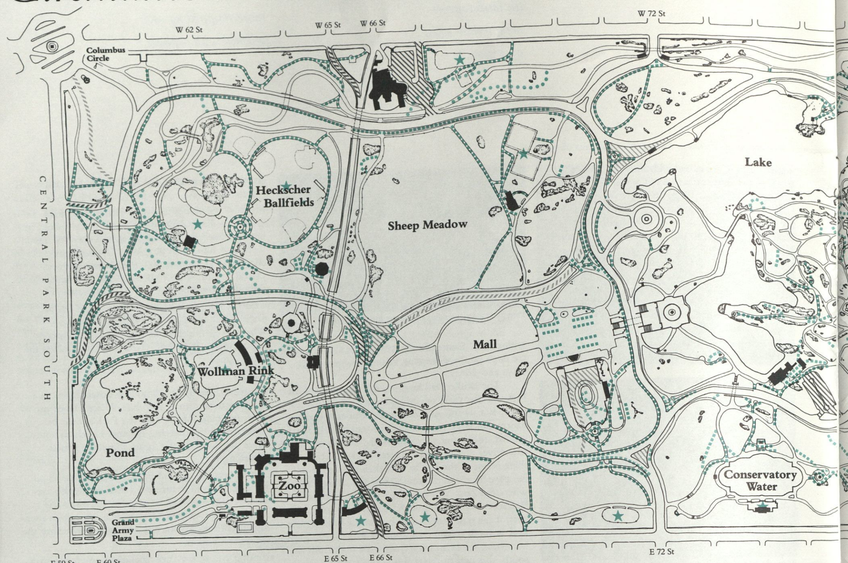
Bridle Trail

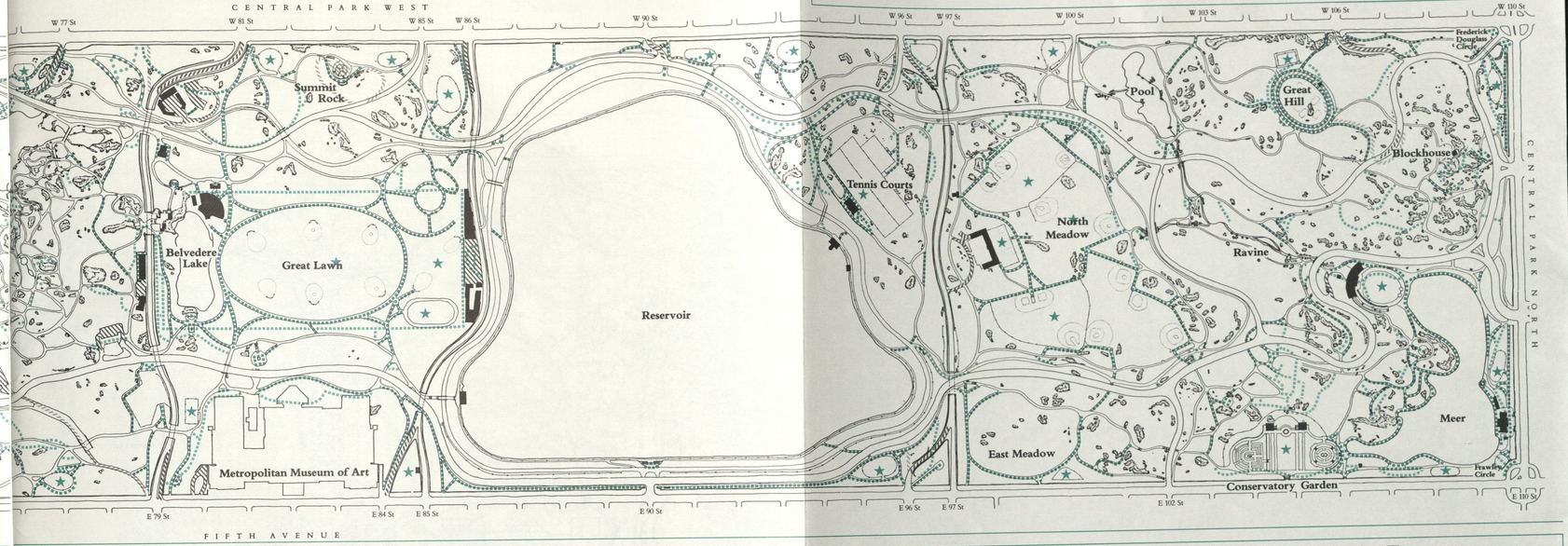
- Since the southern portion of the Bridle Trail has already been severely truncated and the more extensive, flatter and scenic northern portion is adequate to serve horseback riders, we recommend that the part below 86th Street on the west side be converted to a badly needed major north-south pedestrian path.
- Above 86th Street, the Bridle Trail should be completely rebuilt with adequate underdrainage, new landscaping to control slope erosion and new soft surface material to reduce maintenance costs. However, any type of soft surface will necessarily require high maintenance, and the imposition of a nominal horseback rider's fee to help defray these costs should be studied.

The Transverse Roads

- Since the transverse roads are sunk below grade, they are low points in watersheds that surround them and frequently become impassable after rainstorms. Their drainage should be repaired by decreasing storm water flow from the landscape, by increasing the capacity of the underground drainage system and by frequent removal of debris.
- In addition, the walls of the transverses are badly in need of repointing, and the tunnels—some of which have no functioning lights at all—should be lit 24 hours a day.

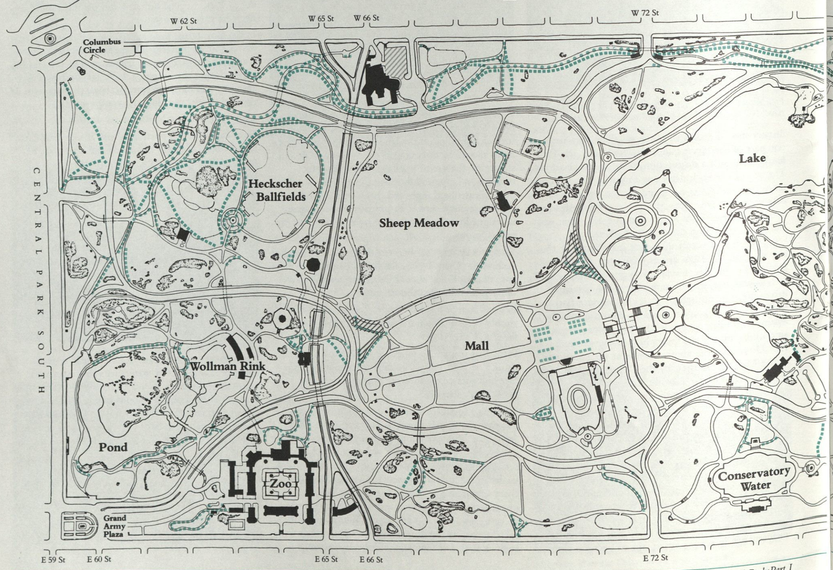
Circulation: Past and Present

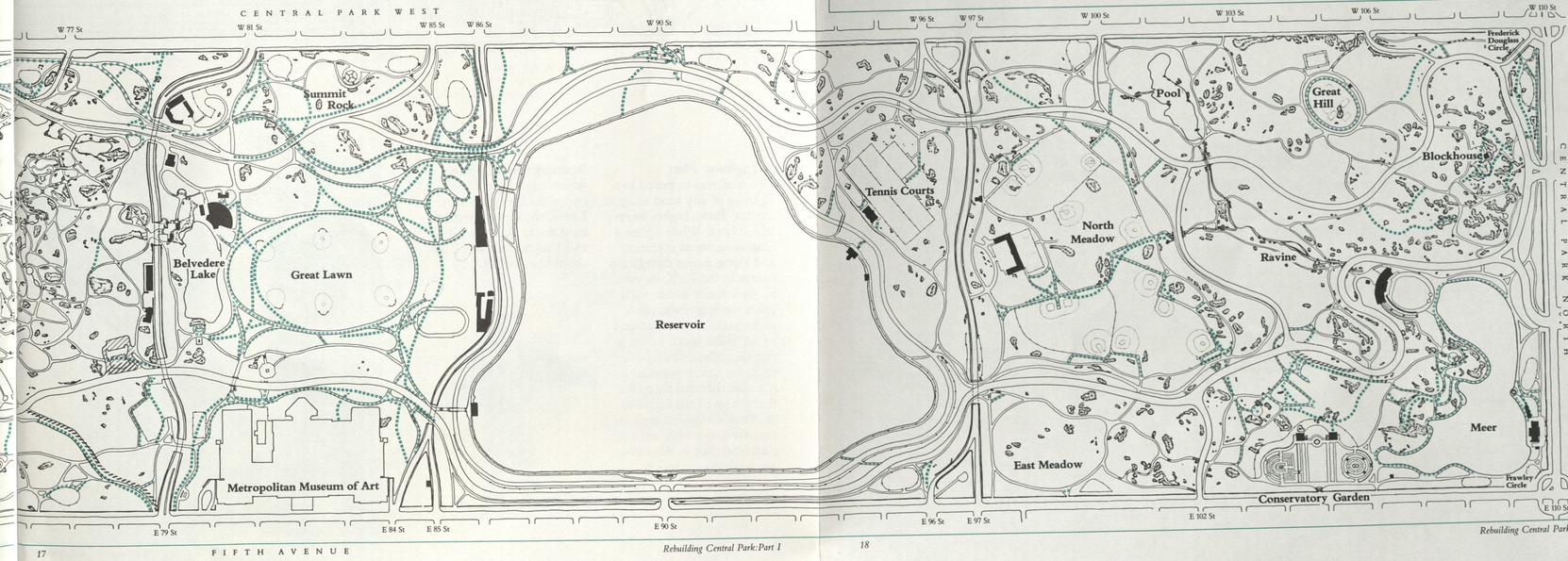




Note: All paths, drives and portions of the Bridle Trail not covered by the Key have remained the same.

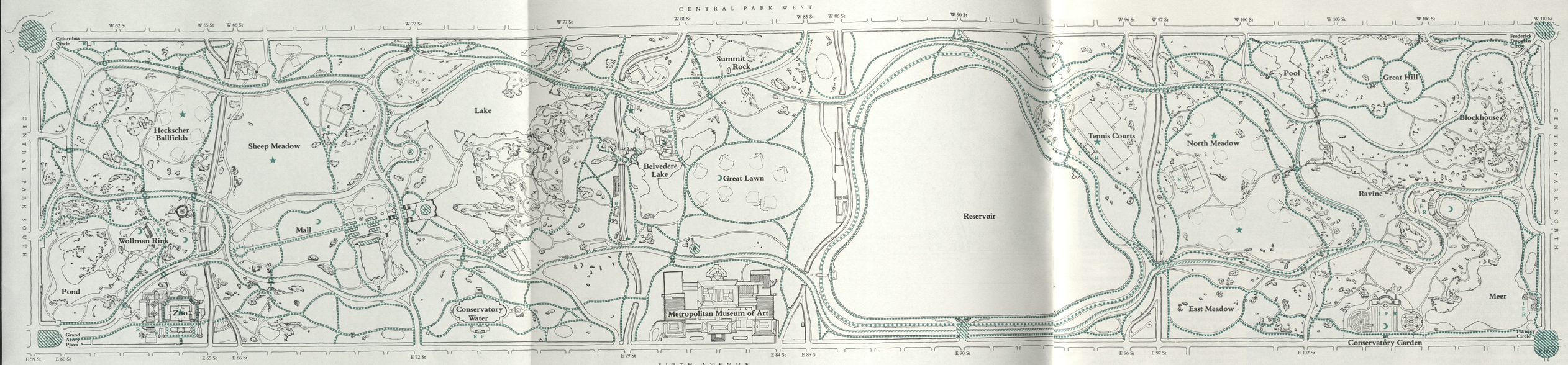
Circulation: Present and Proposed





Note: All paths, drives and parts of the Bridle Trail not covered by the Key will remain.

Proposed Paths, Trails, Lighting and Visitor Amenities



[A detailed discussion of all the circulation changes proposed for Central Park can be found in the section-by-section treatment starting on page 56.]

New Paths

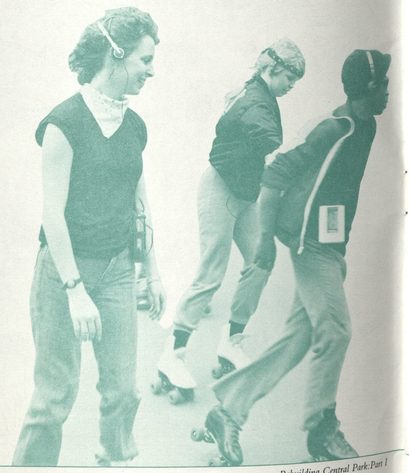
Practical and aesthetic considerations should guide the design of all new footpaths. They will be gently curved rather than laid out in a beeline, and they should be graded into the landscape, not simply rolled out on top of it. The curve makes the path seem natural and in harmony with its surroundings, and with grading and the use of low moundings, pedestrians can be discouraged from veering off paths across the grass. The proposed north-south path through the North Meadow, for example, would replace the present straight-line walk and be graded into the adjacent landscape.

Widths and surfaces of the paths should vary according to location and expected uses. Paths that have to accommodate vehicles as well as pedestrians (such as service paths in the Great Lawn used by trucks in setting up for concerts) must be wider as well as have harder surfaces and more extensive underpinnings. The Bridle Trail, the running track and the trail along the Point need soft surfaces. Pebbles or other special surface detailing would be appropriate for parts of the Ramble.

A Lighting Plan

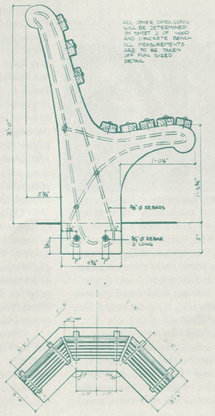
Olmsted was opposed to lighting of any kind in Central Park. Lights were added later. While lighting is an amenity at entrances and along major circulation routes in the Park, its use in the interior of the Park gives the impression that pedestrians are encouraged to use these areas, when in fact they should not be there for safety reasons. It is recommended therefore that many of the lights in the Park's wooded areas be removed, not only to save electricity but to discourage nighttime strollers.

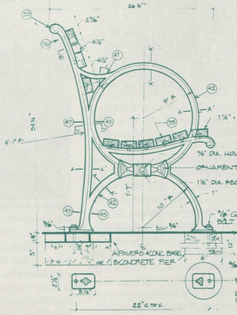
Routes leading to places where nighttime activities occur, such as the Great Lawn, the Reservoir running track, Wollman Rink and Lasker Pool and Rink, should be well lit.



Since many of the arches are dark even in the daytime, 24-hour lighting is recommended for those marked with a star.

Specially designed lighting should be installed to draw attention to the four corners of the Park and such focal points as the Belvedere Castle, the Mall, Bethesda Terrace and Cherry Hill.





Left: Concrete-and-Wood Bench. This is the standard bench—sturdy yet comfortable—that will be used throughout the Park.

Right: The World's Fair Bench. This decorative bench will be used in certain locations to create a special effect—along the Mall, at Conservatory Water, at Strawberry Fields and other selected places.

Topography, Soils and Drainage

The Bare Bones

The site that was destined to become Central Park was both frustrating and fortuitous for its designers. It was frustrating because of its long, narrow, rigidly rectilinear shape, its broken agitated topography and its lack of significant natural scenery. There were no venerable stands of trees, fine meadows or placid lakes but rather two large swamps, a portion of salt marsh, an upland bog and uneven, thin-soiled, boulder-strewn tableland dotted with squatters' shacks, bone-boiling works and piles of refuse from the burgeoning city that lay to the south. It was an altogether unprepossessing landscape. But there was potential for landscape art nonetheless. Outcrops of Manhattan mica schist—so troublesome to the city's builders, who were busily blasting them away elsewhere in order to make street grades as level as possible—offered striking forms and topographic accents for the park-to-be.

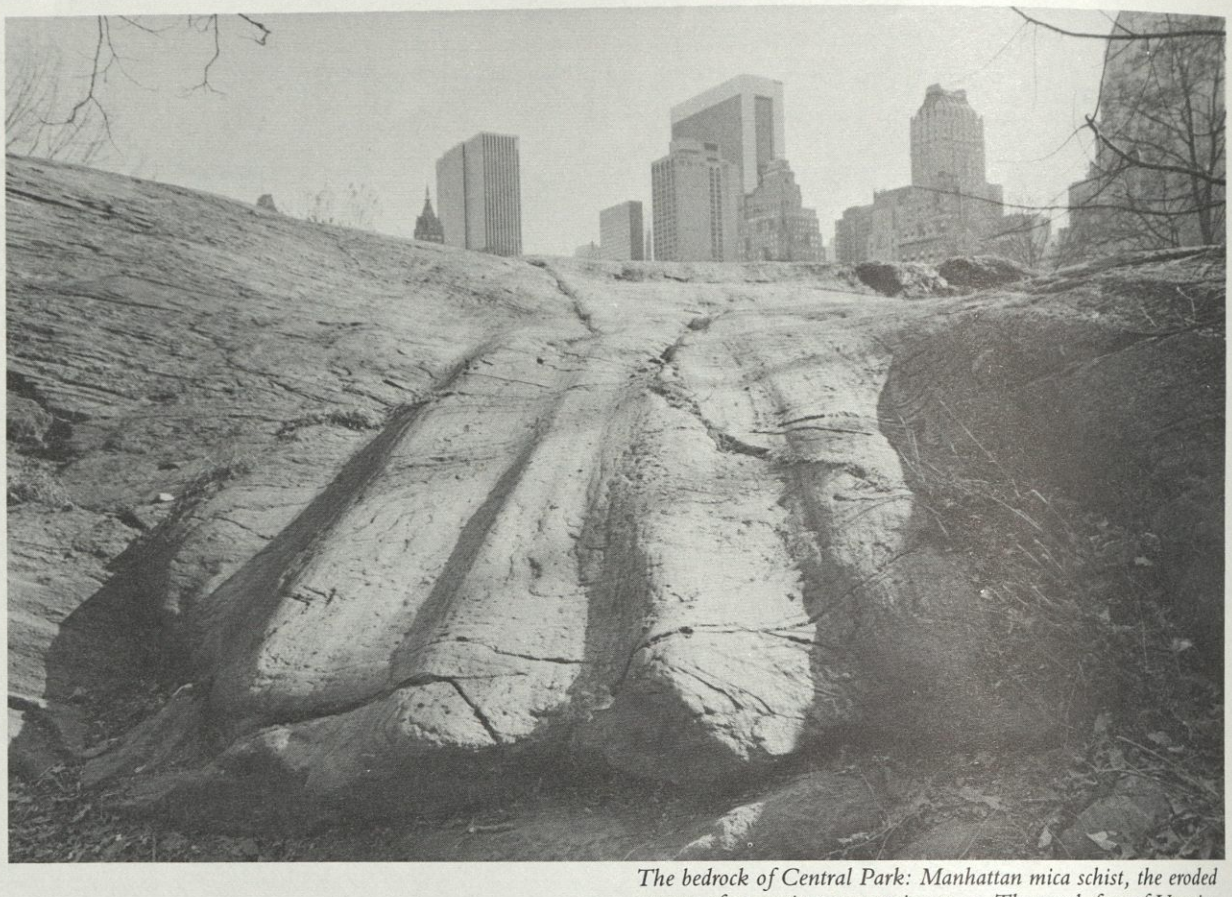
These ancient outcrops form a fascinating chapter of geological history and are in many ways the most beautiful features of Central Park. They are composed of very hard, erosion-resistant metamorphic rock baked in the earth's interior 450 million years ago as part of the mountain-building event that produced the Appalachian chain. Ribboned with granite intrusions from a second epoch of geological unrest 100 million years after their initial formation, they protrude from the surface of the ground throughout the Park, polished stumps of once lofty peaks, looming gray presences flecked with silver flakes of mica and also containing the minerals quartz, feldspar and hornblende. They, more than any other aspect, give Central Park its essential and distinctive landscape character.

In addition to the rock outcrops, there were other major features already in place on the site of the future park. The northern end contained a steep, wooded stream valley and a brook flowing through a break in a series of low bluffs, which had served as fortified lookout points during the Revolutionary War and the War of 1812.

The original site also contained two reservoirs: the present irregular one, called the Receiving Reservoir, built while the Park was in construction, and the rectilinear Croton Reservoir, built in 1842 on the site now occupied by the Great Lawn. These two bodies of water, 143 acres in extent, effectively separated Central Park into two parts, an Upper Park and a Lower Park, and presented a considerable challenge to the designers in their efforts to achieve an integrated plan for all 843 acres.

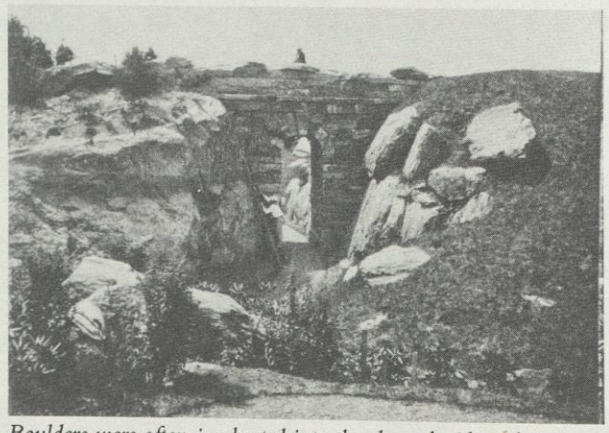
Meeting the Challenge

It took an army of laborers to build Central Park, most of them newly arrived immigrants. Working with pickaxes, shovels, horse-drawn carts and 20,800 barrels of gunpowder, they manipulated an estimated 4,825,000 cubic yards of earth and rock. This included about 700,000 cubic yards of topsoil imported to supplement the Park's thin glacial till soil. The terrain was modeled into long wide swales, small knolls, and hummock-and-saddle formations; these gave the Park its gently rolling character reminiscent of pastoral countryside. Construction teams dredged the swamps and incorporated organic matter from them into the newly configured upland areas, at the same time installing complex piping systems that would turn these basins into artificial lakes and ponds. Some 476,000 cubic yards of rock were excavated, removed and reset. Much of this was bedrock that had to be blasted away in order to create the Park's four sunken transverse roads.



The bedrock of Central Park: Manhattan mica schist, the eroded stumps of an ancient mountain range. The north face of Umpire Rock shows the grooves carved by the Wisconsin Glacier.

This 79th Street transverse is the only one blasted through solid bedrock. The castle and transverse walls are built out of this native material.



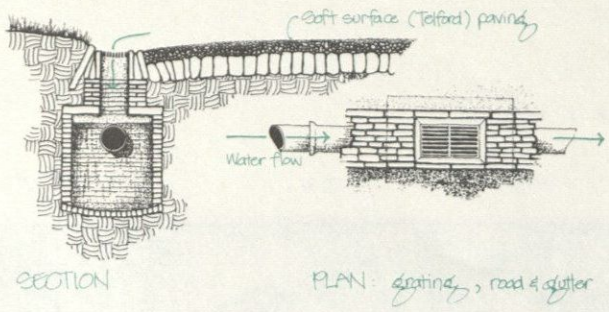
Boulders were often implanted into the slopes beside arches to help retain soil.

Olmsted's design for Central Park was one of considerable brilliance. It took advantage of existing natural landforms, particularly the spectacular rock outcrops. The most impressive outcrops received names such as Summit Rock (the highest natural elevation in the Park), Spur Rock and Drip Rock. Others, like the Kinderberg and several rocky elevations in the Ramble, were crowned with rustic shelters to emphasize their presence in the landscape. Thus they became focal points as well as viewing platforms. Vista Rock, which plunged a sheer 20.3 feet to the old Reservoir and also contained the tunnel of the 79th Street transverse road, received the most dramatic treatment: a Victorian Gothic castle built largely out of the parent bedrock and called the Belvedere because of its three viewing terraces. This ornament, which today houses a U.S. weather station and the Central Park Learning Center, was placed on an axis with the Mall and Bethesda Terrace.

Workmen used much of the excavated rock debris to define and control the embankments of newly created lakes, ponds and streams. They built two streams. One, the Gill in the Ramble, is wholly artificial. The other, in the northern end of the Park, was made from Montayne's Rivulet, an existing brook whose bed was excavated and then punctuated with boulders placed artfully along its course to form a series of five waterfalls (two of which have now disappeared). The designers also created other seemingly natural bodies of water: the Pool and Loch, which grew out of the reconfigured Montayne's Rivulet; the Meer, created from a salt marsh in the Park's northeast corner; the large 20-acre Lake (including a man-made island) embracing the Ramble; and, in the Park's southeast corner, the Pond. In addition to the rocky material that helped impound their water and hold their shores in place, some of the water bodies had gravel paths along the edges with stone curbing set two and a half feet below the summer water level. When the water was lowered in winter, skaters could sit on the stone curb and walk on the gravel. This and other measures helped forestall shoreline erosion and damage to the vegetation from human traffic.

Olmsted and Vaux used boulders as naturalistic side walls for stairs set into hillsides, as barriers to control erosion or simply as elements of visual interest. They used them in constructing the Park's grade-separated circulation system. Twenty-three underpasses appear to grow gracefully and naturally out of the landscape; the steep embankments of many were formed and held in place by boulder construction.

Thus Central Park was sculpted into more or less the form we know today. In this process, the designers were mindful of another imperative besides those of landscape beauty and convenience of circulation: the achievement of good drainage throughout the Park.



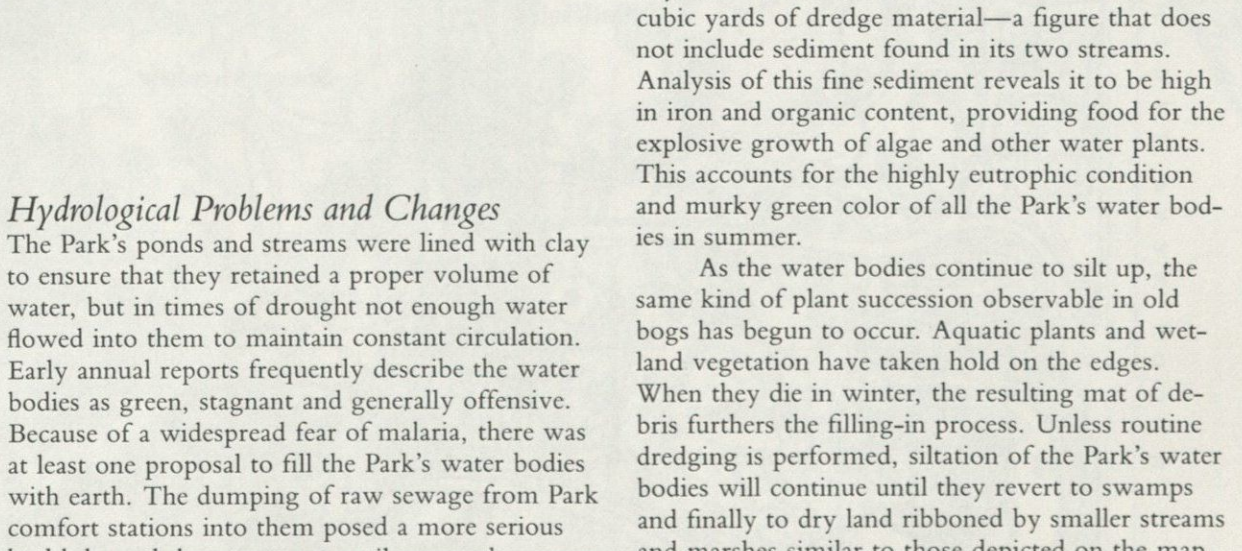
1865 section of Carriage Drive showing layers of gravel and drainage system.

"Because of various design changes, plus the effects of siltation, 21 percent of the Park's original water-body surface area has been lost."

Drainage

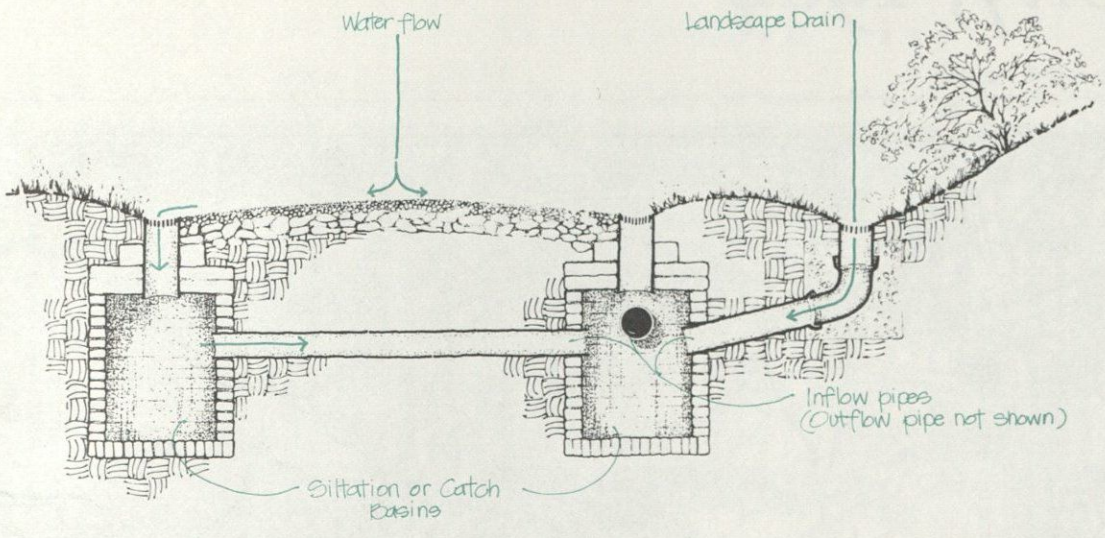
Before construction, the Park consisted of five major drainage watersheds. Originally, these basins were part of a natural drainage system that flowed through the Park to the East River. But when uniform city street grades were established on all four sides of the Park, and the ground surface was raised or lowered in many places, the natural drainage corridors were destroyed. Isolated and rimmed by a perimeter wall, as it is today, Central Park has had to depend on an artificial drainage system to carry off storm water. Two systems, in fact, were constructed: one for the general landscape and another for the circulation system.

Soil compaction caused drainage problems from the outset. Olmsted complained that in the recently excavated areas the ground held water like putty and that the soil was "suitable only to the growth of swamp plants." During periods of drought it became rock-hard, creating "a hydrollic floor between the thirsty roots in the surface soil and the moisture which would otherwise be afforded them from the cool earth below." Olmsted had made a considerable study of underground drainage, and working with a drainage engineer, Colonel George E. Waring, Jr., he planned a field drainage system for most of the Park landscape, notably the bog in the Ramble, the swamp in the southwest corner and the stream beds, which had been filled in during the Park's construction. This system consisted of clay tiles, one and one-quarter to six inches in diameter, laid approximately 40 feet apart. Elsewhere, tiles were laid where water collected along the underground surface of the bedrock, where it could not percolate through impermeable subsoil or where the water table was naturally high. These drainage tiles slowly funneled the water into basins attached to an underground collector system that fed the Park's streams and ponds.



The Meer's natural shoreline was replaced with a rock edge, which in turn was replaced with solid concrete.

A second drainage system was constructed parallel to the Park's circulation system. Drives, a Bridle Trail and transverse roads were crowned in the middle and had open gutters on both sides lined with granite block or other stones. These gutters emptied water into a series of catch basins, which in turn were connected by pipes to the storm-water collection system that emptied into the Park water bodies, or, in the case of the sunken transverse roads, directly into the city sewer system. Beneath most of the paths were laid more drainage tiles like those in the open landscape. The path system was mostly unpaved at first, and water could drain down through the porous surface materials. Where the topography made it necessary, catch basins were positioned to prevent storm runoff from washing out paths and creating gullies on the Bridle Trail and the drives. Catch basins were also needed where the artificial topography of the grade-separated circulation system interfered with the Park's natural drainage, subdividing its five drainage basins and creating new low points.



1865 section of soft-surface footpath and drainage.

Hydrological Problems and Changes

The Park's ponds and streams were lined with clay to ensure that they retained a proper volume of water, but in times of drought not enough water flowed into them to maintain constant circulation. Early annual reports frequently describe the water bodies as green, stagnant and generally offensive. Because of a widespread fear of malaria, there was at least one proposal to fill the Park's water bodies with earth. The dumping of raw sewage from Park comfort stations into them posed a more serious health hazard, however; not until 1905, when sewer pipes connected the interior of the Park to city sewer lines, was the problem corrected. With the completion of the Catskill Aquaduct in 1915, more water was available to flush the lakes and maintain an adequate water level.

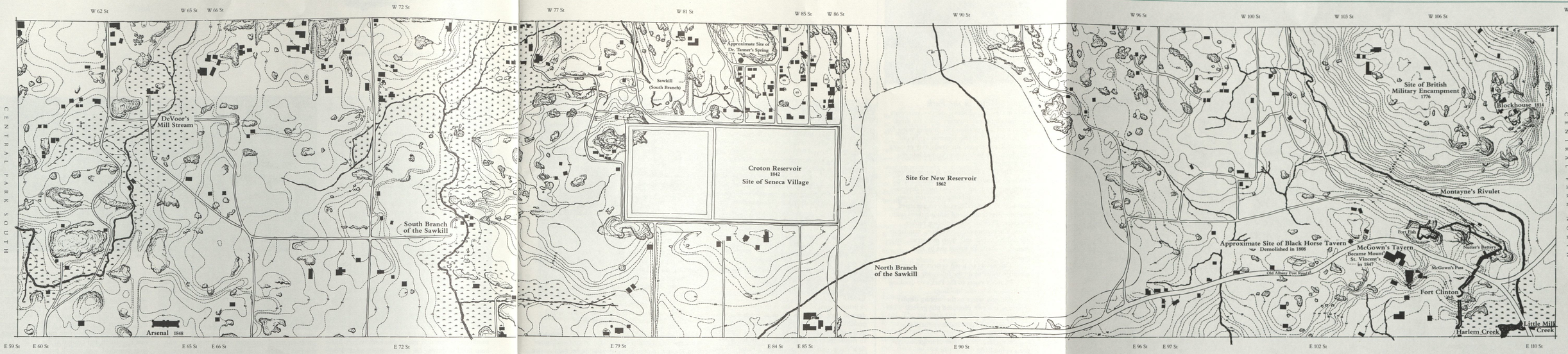
Also at that time, gravel and cement were applied to lake and pond edges; beaches were widened, smoothed and cemented. Dams were constructed in the Gill. The Meer was edged with a new dry-rock rubble edge, and in 1929 a new rock edge was constructed around the Lake. The configuration of pond and lake shorelines, however, remained essentially the same as they had been originally. But this was not true for long. After 1934, Robert Moses adopted a landscape approach that emphasized engineering more than design. Errant circulation and erosion at the water's edge were remedied with asphalt paths and rock walls partially rimming the Pond and entirely surrounding the Meer. In building these hard, regularized edges, coves and peninsulas were modified and water-surface area was reduced. Water surface in the Park was further diminished by the imposition of Wollman Rink on an arm of the Pond, Loeb Boathouse on the northeast inlet of the Lake and Lasker Rink at the mouth of the Loch. Because of all these changes, plus the effects of siltation, 21 percent of the original water-body surface area has been lost.

Islands, too, have disappeared. Erosion claimed the island in the Lake, the Pool island was washed away after a water-main break in the early 1960s, and the Meer island disappeared beneath Lasker Rink. With all this melting away of islands and the tremendous sedimentary load washed down from the surrounding watersheds, the depth of the Park's water bodies was greatly reduced. Today, the Park contains an accumulation of 30,000 cubic yards of dredge material—a figure that does not include sediment found in its two streams. Analysis of this fine sediment reveals it to be high in iron and organic content, providing food for the explosive growth of algae and other water plants. This accounts for the highly eutrophic condition and murky green color of all the Park's water bodies in summer.

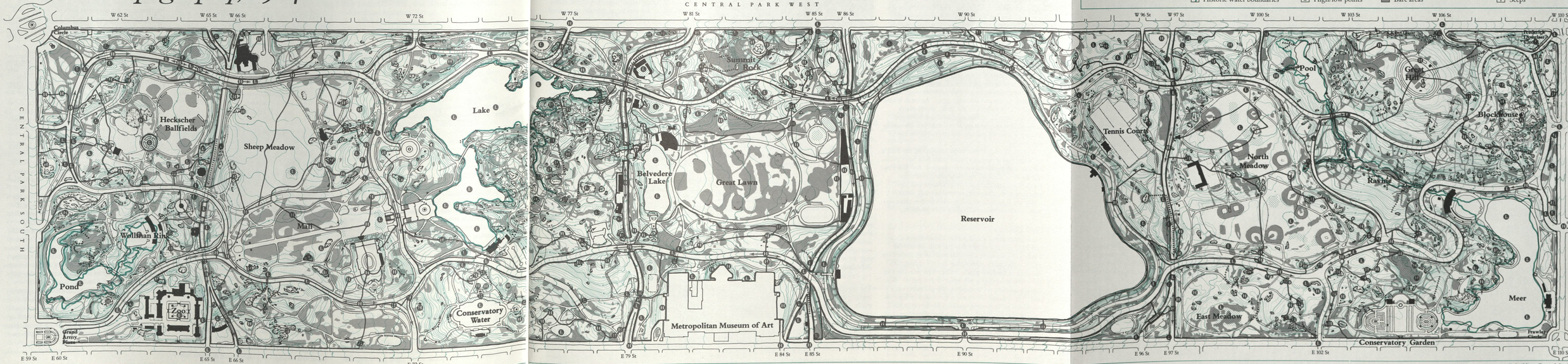
As the water bodies continue to silt up, the same kind of plant succession observable in old bogs has begun to occur. Aquatic plants and wetland vegetation have taken hold on the edges. When they die in winter, the resulting mat of debris furthers the filling-in process. Unless routine dredging is performed, siltation of the Park's water bodies will continue until they revert to swamps and finally to dry land ribboned by smaller streams and marshes similar to those depicted on the map of the pre-Park site. (See Map, pages 24-26.)

Thus Central Park's designed landscape continues to shift. Uninformed public opinion believes that somehow the Park's delicate balance of land and water manages to take care of itself. Nothing could be farther from the truth, as a brief examination of its drainage and soil problems will show.

Pre-Park Site, 1857



Current Topography, 1984



"Between the turn of the century and 1960, there was a 57 percent increase in the amount of hard surface within the Park."

The Pond, pre-Wollman.

The Pond after 1950: hard edge, more paths.

Drainage Additions and Problems

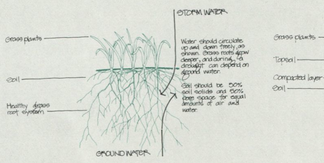
Central Park's carefully conceived system of drainage pipes was adequately maintained and functioned well for about 50 years. But after the turn of the century, the field drainage system began to break down. During 1907 and 1908, 4,025 linear feet of new drain tiles were laid in order to correct standing water problems in several low-lying areas. Shortly thereafter, asphalt, then a new road material, was used to pave the drives; curbs were installed in place of the gutters to contain storm-water runoff and guide it into catch basins. The paving of the drives and later the paths increased the volume of water emptying into the underground drainage system. Even more critical was the proliferation of new paths and pavement for parking lots and playgrounds. Between the turn of the century and 1960, there was a 57 percent increase in the amount of hard surfaces within the Park. All of this greatly reduced the amount of

One of 700 catch basins in the Park, not counting those in the Drives and the transverses. This one, like many, is clogged.

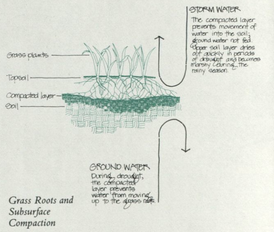
Transverse road after a heavy rain.

water percolating into the ground water table and increased the burden on the existing drainage system. The siphoning off of rainwater from the Park has, of course, affected its ecology, with particular consequences for its vegetation.

After 1960, the entire system experienced accelerating deterioration as the Parks Department became underfunded and regular cleaning of 700 catch basins, miles of drainage pipes and numerous water bodies came to a halt. To make matters worse, the updating of maps to show the location of all underground piping, catch basins, gate valves and outflow structures was abandoned. As employees who possessed an understanding of Central Park's infrastructure retired, valuable information was lost. Increasingly, unpleasant emergency situations arose because of drains so clogged with debris that after every rain, storm-water lakes would inundate walkways or stall traffic on the drives and transverse roads. Today's Park managers and planners find themselves in the unenviable position of trying to remedy this complicated and difficult situation with inadequate maps and charts.


STORM WATER
Water should circulate up and down through the soil profile, both going deeper, and during hi drought, can depend on stored water.
Soil should be 50% soil particles and 50% open space, for equal amounts of air and water.
Healthy grass root system
GROUND WATER

Grass Roots in Normal Soil


STORM WATER
The compacted layer prevents movement of water into the soil; ground water not fed. Upper soil layer dries out quickly in periods of drought and becomes mushy during the rainy season.
Grass plants
Topsoil
Compacted layer
Soil
GROUND WATER
During drought, the compacted layer prevents water from moving up to the grass roots.

Grass Roots and Subsurface Compaction

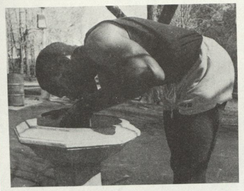
Soil Conditions

As we have seen, Central Park was not abundantly endowed with rich native soil. Tons of imported topsoil were used in its construction, and many amendments have been necessary because the imported soil was also acidic and poor in organic matter. Three aspects of the Park's soil are of concern to us here: its erosion, its compaction and its fertility.

Today, erosion of the topsoil in Central Park is severe. In 1982, almost 25 percent of the Park's soil had no vegetation to hold it in place or keep it from being washed into low-lying areas. (See page 26) Erosion is minimized when soil is covered by turf, protected by shrub lateral branching, ground cover, litter layer or mulch, or when it supports plants with dense fibrous root systems. The same lack of sound management and work force attrition that permitted the drainage system to deteriorate has taken its toll on the landscape. Because no new planting of the ground plane has been done for so long during a period when the Park was becoming increasingly popular and subject to heavy use, erosion has increased and has been accompanied by severe compaction of the soil.

On bare soil, even a drop of rain becomes a compaction force, pushing fine soil particles into spaces that should hold air or water. A surface "crust" forms, restricting seed germination and the infiltration of water. As the ground becomes progressively harder and storm gullies form, what plants remain are further deprived of needed moisture.

Nor is hardpan necessarily confined to the surface layer; the subsurface can be compacted as well. This is unfortunately the case in two recently restored areas, the Sheep Meadow and Heckscher Ballfields, where a compacted subsoil layer impedes both drainage of water and growth of roots. Storm water is held in the upper soil level above this hardpan, creating unnecessarily wet conditions during the rainy season. The hardpan also prevents plant roots from penetrating to the moist soil strata below. In such a situation, root growth is inhibited, and maintenance requirements are greatly increased. Landscape construction techniques based on routine boiler-plate specifications do not address the natural characteristics and precise needs of each site in Central Park. The two projects just cited, constructed to standard specifications, have been kept green only through frequent irrigation. The main headache for the Park's managers has been preventing people from using these areas while



Potable Water in the Park

Early in the Park's history, the two reservoirs supplied all the fresh water needed for drinking fountains, irrigation and running water for the buildings. With the removal of the old Croton Reservoir and the availability of more aquaducts, the Park system tapped into the city's water supply.

The Parks Department is currently rehabilitating all water mains and control valves. Using surveys from 1910 and metal detectors, the contractors are locating the water pipes, grinding out mineral deposits accumulated over the past century and relining them with concrete. They are also replacing broken pipes, eliminating outmoded lines, standardizing control valves and, most important, mapping the system for future use by Park plumbers.

This newly restored system will provide adequate water to do the following things:

- Supply water to the Park's 67 drinking fountains and service buildings.
- Supply water to the existing display fountains and two proposed playground water sprays.
- Flush the lakes and keep them at acceptable levels.
- Increase the number of irrigation systems in the Park.

they are wet; wet soil is 20 times more vulnerable to compaction than dry soil.

Soil compaction has yet another unfortunate consequence. We have seen above how over the years increased paving of the Park's circulation system has added to the burden of its underground drainage system while robbing its water table of the ability to recharge itself quickly. Hardpan, which acts like pavement, has the same effect. Water that should be kept on site to benefit the vegetation is diverted instead to an already overloaded drainage system. Moreover, the amount of impervious surface in the Park today causes rainwater to course in raging currents, scouring adjacent topsoil and debris, and thereby further clogging up the catch basins and drainage pipes. As catch basins overflow everywhere in the Park, storm-water lakes are formed, rendering paths and landscape unusable for several days after a rain and ultimately leaving a layer of muddy sedimentation on top of the ground.

In order to correct these conditions, the Park's underground drainage system must first be systematically and comprehensively mapped. But this cannot be done until all the silted catch basins are cleaned out and their invert elevations and pipe sizes revealed. Planning, restoration and maintenance are thus inextricably intertwined in this most basic, difficult and challenging Park problem.

Soil Quality

Not surprisingly, a soil survey conducted in Central Park in 1982 shows that the soils are of low fertility. Subsequent chemical analysis of more than 250 samples has revealed that the soil throughout the Park is predominantly acidic, with one-third of the samples having a pH value of 5 or below. Because grass thrives best where the pH is between 6 and 7, it is necessary to use a great deal of lime on the lawns to keep them green. On the other hand, trees and many shrubs like rhododendrons, azaleas and other ericaceous plants are well-suited to grow in Central Park's soil if other conditions are right. Heavy foot traffic and leaf raking in high-use areas have denied the accumulation of organic materials in the soil, so it is usually necessary to add organic matter wherever new landscaping projects occur. There is also a general paucity of available phosphorus and calcium.

Since 1982, the Central Park Conservancy has supported a soil laboratory as well as a composting operation. The soil lab provides horticultural personnel with immediate information about new planting sites and assists them in prescribing soil improvements and appropriate plant species. A soil scientist monitors moisture levels in the soil in order to adjust watering schedules and save valuable manpower while maximizing the benefit to the vegetation.

The composting operation has initiated the production of good new humus within Central Park and achieved a savings in labor costs formerly allocated to transport leaves and other organic debris to dump sites outside the Park. To be truly effective and efficient, however, the operation should be reconstructed, streamlined and more highly mechanized.

Goals

A primary goal of this plan is to achieve a well-drained Park with retention of as much water as possible in the ground below the surface. A second goal supporting the first is a maintenance program to ensure that catch basins do not silt up, pipes flow freely, and lakes, ponds and streams are routinely cleaned and dredged. A third goal is the production of an up-to-date survey of the Park's underground drainage structures.

The control of erosion in the future and maintenance of a stable landscape and healthy soil are goals concomitant with those of drainage improvement. They can be achieved by continuing and expanding the work of the soil lab to include hydrological measurements and by upgrading the Park's composting operation.

Brick-lined open drainage gutter, an alternative to catch basins and subsurface pipes.

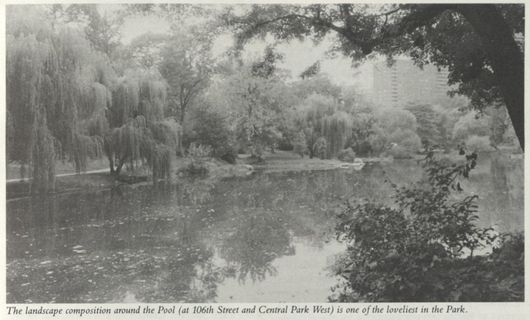
Recommendations

- Storm-water runoff should be decreased by stabilization of the Park's landscape. To do this enormous task sensibly and successfully, restoration must start at the highest elevations in a given watershed and proceed downward. Before this is begun, the extent, severity and causes of erosion at each site must be surveyed. Compacted soil should be broken up, enriched and possibly added to. Boulders may be needed to hold soil in place on steep slopes, and, most important, slopes must be covered with vegetation.
- The specifications for fill soil and the preparation of landscape restoration sites should be rewritten to ensure that in the future the Park has the highest quality topsoil and that it drains properly. Of special importance is the amendment of topsoil with coarse sand, composted leaf mold and humus instead of the customarily specified peat moss, which acidifies the soil. These specifications should be individually tailored to the needs of specific project sites after testing by the soil lab.

  For each project site, soil scientists from the lab should assess and advise on soil conditions, including levels of compaction, both before construction specifications are written and following restoration. They should engage in pilot projects that expand the Conservancy's leadership role in urban-soils research. The lab should be responsible for a computerized soil data base, and it should also oversee composting.
- The present composting operation should be restudied. It should possibly be relocated or, at least, reorganized to take up less space. If it is to provide a reliable supply of good compost, it should have one full-time person in charge and the necessary machinery to make it efficient.
- Park soil should continue to be enriched and pH levels adjusted on a site-specific basis prescribed by soil lab technicians. Its humus content should be increased selectively, especially on planted slopes. Its porosity should be increased on flatter, heavily used areas by the addition of coarse sand in order to promote good drainage. Specifications for soil, drainage and irrigation should be closely linked with the intended use of a given area.
- Much of the Park's drainage system may have to be reconstructed and enlarged from 4- or 6-inch pipes to 10- and 12-inch pipes, depending on the capacity of the downslope trunk lines. In order to determine the amount of work necessary to repair or reconstruct the system, there must first be a survey of the amount of collapsed pipe and the number and location of catch basins that have been invaded by tree roots. A computerized mapping of the Park's drainage system that can be progressively updated should then be prepared and maintained.
- The impermeable surfaces of the Park should be reduced wherever possible in order to make the ground plane more porous and the water table more capable of being recharged. Some path widths should be reduced, and wherever hardpan has formed it should be broken up, tilled to a sufficient depth to ensure proper drainage and replanted. Seepage basins, dry wells or other such means of keeping water in the landscape rather than allowing it to drain away should be studied. Also toward this end, the Park's two drainage systems—the one that is integral to the circulation system and must carry off water immediately and the other that merely prevents water from standing in the landscape—should be made as separate and distinct as possible.
- A maintenance crew should be assembled to perform rountine drainage repairs and systematic cleaning of catch basins in order to control the flooding of drives and paths and prevent the reversion of meadows and lawns to muddy bogs. The work of this crew is also essential to performing the drainage survey recommended above.
- The Park's water bodies should be thoroughly dredged after their surrounding watersheds have been restored and stabilized. In conjunction with dredging, water-body edges should be softened with vegetation and returned, where possible, to their original historic configuration. All outlet structures to the city's combined sewer system should be rehabilitated. And with the addition of more skilled personnel and the cooperation and advice of the New York State Department of Environmental Protection limnologists, the soil lab should be enabled to monitor the condition of all water bodies on a regular basis and to recommend remedies when needed.

Vegetation and Wildlife

"Today, almost 25 percent of the ground plane of Central Park, excluding paved areas and water bodies, is bare, compacted earth."

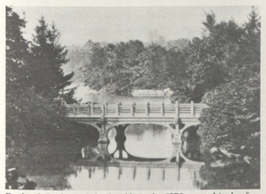


The landscape composition around the Pool (at 106th Street and Central Park West) is one of the loveliest in the Park.

Central Park's vegetation, more than any other of its features, defines its character and identifies its function. Because the Park is old, we assume its vegetation is something constant and fairly immutable. This is entirely untrue, for Central Park has been host to a succession of overlapping but constantly changing vegetative communities. As is true elsewhere—although perhaps here a bit more accelerated because of urban stress—growth and decay, survival and disease, life and death are the norm.

Comparing today's Park with that of Olmsted and Vaux, one is struck most forcibly by the much larger extent of the tree canopy. Of course, when the Park was young and newly planted, its trees were much smaller. But there was also, by design, a great deal more unencumbered open space. For its authors, the highest *desideratum* of Park scenery was rolling meadowland. Because of its narrow width and its broken, somewhat agitated topography, punctuated everywhere by outcrops of Manhattan schist bedrock, this was difficult to achieve. The Sheep Meadow and, rather spectacularly, the North Meadow, with its South Meadow and East Meadow extensions, realized this scenic ideal. Elsewhere, however, there were many smaller lawns and sunny glades, and when we compare the canopy cover of today with that of 1873, when the Park's first trees were assuming mature proportions, we find that many of the open spaces have shrunk severely or have disappeared altogether. (See Map pages 35–37.)

A comparison of the nineteenth-century Park with that of the present reveals another important difference. The horticultural palette of Olmsted ran heavily toward evergreens. Spruces, firs, hemlocks and pines were extensively planted, and 1.5 miles of the West Drive were rechristened the Winter Drive because of the dense planting of such trees along its borders for visual interest at a time of year when there was little other color. The Park was then a real botanical showcase. The nineteenth century had opened up the Orient to plant hunters, and many exotic trees, shrubs and vines—among them ginkgoes, rhododendrons, and wisteria—were introduced to America in Central Park. There were also floral displays to satisfy a passionate general interest that was both scientific and aesthetic.



Bankrock Bridge and the Ramble in the 1870s: a multitude of evergreens once grew in the Park; now they are a rarity.

But after the turn of the century, a management overly responsive to demands for sports and programmed recreation allowed the Park's vegetation to deteriorate and its botanical variety to dwindle. The trees that were planted were mainly familiar and readily available street trees like the London Plane, and they were placed regularly along paths, boulevard-fashion.

Horticultural care was revived during the Depression, when many gardeners who had formerly been employed on great estates joined the Parks Department under Robert Moses and worked on a number of "spruce-up" projects. Gone was the romantic pastoral scenery and picturesque detail of the old Park, but gone too were the vegetative eyesores—dead trees, bare and weed-choked lawns, and scruffy shrub beds. By the 1970s, though, the Moses-era layer of vegetation had mostly disappeared, at least on the ground plane, as Central Park was given over completely to concerts, rallies, festivals, happenings and sports. The old European-trained gardeners had also disappeared through attrition and retirement. Little was planted during this period, but a great deal of spontaneous vegetation—self-seeding cherries, Sycamore Maples and Ailanthus, among others—sprang up, blotting out views and giving the Park a generally wild, untended appearance. Extensive vegetative analysis and the reintroduction of horticultural practices were imperative if the Park's landscape architecture was to survive. This has now been done and will be a continuing process.

Remarkably, despite years of horticultural neglect, the Park has continued to play host to an extremely varied wildlife population. The White-tailed Deer, gray wolves, black bears, bobcats, beavers, wild turkeys and Ruffed Grouse that roamed the area when New York was being settled in the mid-seventeenth century are gone, of course. But there are still rabbits, woodchucks, bats, raccoons, squirrels, frogs, turtles and fish.

It is the birds that make Central Park a favorite haunt for naturalists. Because the Park is located on the Atlantic flyway, it acts as a green oasis in the midst of an urban desert, attracting migratory species of unusual interest. Since 1873, some 269 species have been sighted in the Park, 42 of which are resident. The birds and other wild creatures congregate mainly in three heavily wooded and less frequented sections of the Park: the Bird Sanctuary on the peninsula jutting out into the 59th Street Pond; the Ramble, a 30-acre woodland embraced by the Lake; and the North End, where there is a native forest environment.

The great majority of the Park's animal life is concentrated around water and in the above-mentioned areas of woody cover. Within these three zones, variation in foliage height, leaf and branch structure, amount of deadwood, number of food-producing plants, evergreens that provide winter cover, running water and wetland areas create ecological niches that favor species variety.

Landscape Types

Central Park consists of three generic types of landscape. The pre-Park site dictated the ultimate forms: craggy uplands became picturesque *woodland;* flat tableland became gently rolling pastoral *meadows;* and rolling green turf, planted with specimen trees and tree groves, became what is commonly known as *parkland*. Each landscape acquired and imparted value from its contrast with the others. The Ramble, wooded, rugged and lush, contrasts with the sweeping smooth lawns and specimen trees of Cherry Hill. Noses of rock planted with pines, deciduous trees and shrubbery provide a counterpoint to the soft, undulating meadows.

The Park's vegetation provides hospitable shelter for 269 bird species.

These different features have different problems, but there are underlying, parkwide concerns common to all of them. These are discussed in this chapter. The specific needs of various regions in the Park are dealt with in Part II.

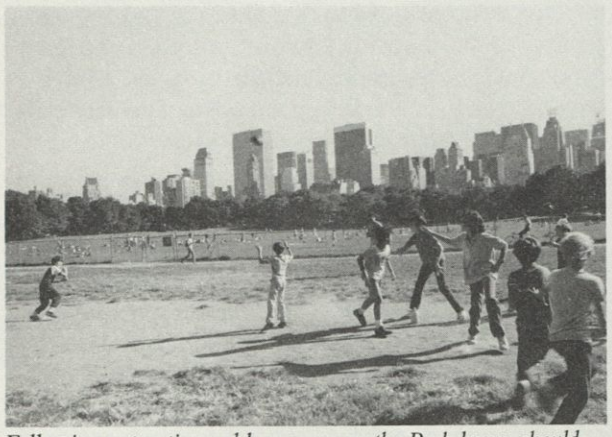
Soil erosion, the number-one problem

Today, almost 25 percent of the ground plane of Central Park, excluding paved areas and water bodies, is completely devoid of vegetation. It is bare, compacted earth, eroding with every rain. As soil erodes, it fills the catch basins and drainage pipes until they no longer function. It also fills the lakes with sediment, decreasing the water volume and surface area and adding an excess of nutrients, which cause summer algae blooms.

The reasons for the Park's heavy erosion are not hard to find. First, general foot traffic has caused the appearance everywhere of "desire lines"—impromptu paths cut across greensward, through shrubbery and parallel to the drives like cow trails. Second, unenforced management poli-

"Self-seeding Black Cherry trees have crowded out less aggressive species and also encroached upon open meadow spaces."

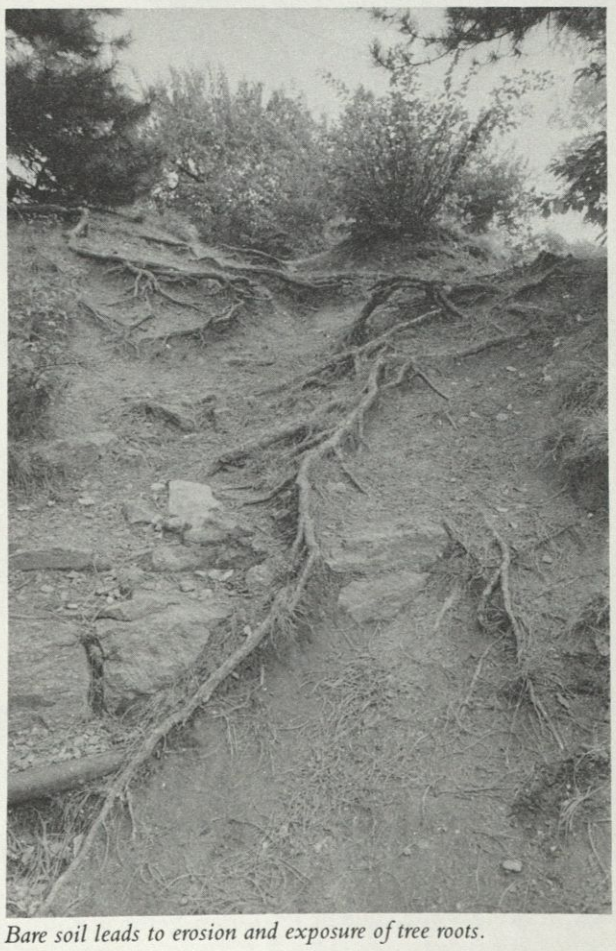
cies have permitted a minority of ball players (approximately 9 percent of all Park users) to preempt and wear out lawns that would otherwise be enjoyed by the majority who come to stroll, think, picnic and sunbathe. At least 75 public and private schools in Manhattan use Central Park for their sports programs; many, in fact, advertise their proximity to the Park and their use of it in their brochures. While some do use the existing permitted fields—Heckscher, the Great Lawn and the North Meadow—many simply appropriate whatever lawn is convenient to them. Often the lawns are wet and therefore vulnerable to tearing and soil compaction. Current ranger staffing is adequate to enforce management policy only in two restored



Following restoration, ad hoc games on the Park lawns should be regulated to minimize damage to the turf.

areas: the Sheep Meadow, where no active sports are allowed, and the Heckscher Ballfields, where no playing is permitted after a rain. It is not sufficient at this time to enforce regulations governing other Park lawns and playing fields. This problem will be taken up under the subject of Park management. (See page 39.)

A third cause of erosion in the Park is bare soil created by the combination of dense shade and root competition among trees that are not sufficiently separated from one another. Trees growing too close to one another block the sunlight necessary for lawn, ground cover and shrub growth, and they compete with them for water and nutrients. This situation is, therefore, particularly damaging when it occurs on slopes. Not only does the soil erode and further impair efforts to replant the ground plane, but the trees themselves do not mature into handsome specimens. Rather, one sees them clinging to the slopes, their roots heavily exposed, the soil around them continuing to erode.



Bare soil leads to erosion and exposure of tree roots.

Central Park's erosion is compounded by its sometimes steep topography. There are continuous grade changes throughout the Park, slopes of more than 25 percent being frequent. Erosion on such slopes can be controlled best by heavy planting of shrubs and ground cover vines in woodland areas and turf in other areas where the fibrous grass roots can form a dense mat holding soil in place. When the city budget was cut in the mid-1970s, the routine replanting of such slopes was left undone, and foot traffic, rain and wind caused soil to wash away.

Rampant cherries and galloping knotweed

The most aggressively self-seeding tree species in Central Park is the Black Cherry (*Prunus serotina*). According to the 1982 tree inventory, more than 19 percent of the 24,600 trees over six inches in diameter were Black Cherries. But when one adds the numerous sapling trees as well, the predominance of this one species is truly astounding. Fifty-nine percent of all lawn areas are populated with cherry saplings under six inches in diameter. In the Ramble, the percentage is around 80.

The cherry and other weedlike trees are able to grow in compacted soil where others cannot. As Park maintenance declined, the cherry population crowded out less aggressive species and also encroached upon open meadow spaces. The problem of encroachment was compounded when management began using heavy, oversize mowing machines that cut a wide swath but could not cut close enough to rock outcroppings to prevent cherries and other opportunistic plants from sprouting up around them. The cherries grew and multiplied, and each year the mowers had to mow a little farther away. Today, groves of cherries surround and obscure many of the Park's handsome rock outcrops.

Poor soil and the inaccessible borders of rocks are hospitable to another plant as well, the Japanese knotweed (*Polygonum cuspidatum*). The map on page 32 shows how pervasive this plant has become. Because it spreads by an underground root system, it is particularly difficult to eradicate by normal weeding methods.

Neither the Black Cherry nor the Japanese knotweed is an ugly plant. They are nuisances because of their invasiveness and because they choke out other less common plants. They are symptomatic of the wasteland ecology typical of a vacant lot or an unmanaged park.

Loss of botanical variety

The lack of diversity of Central Park's vegetative community is a trend of even greater dimensions than those discussed above. Dutch Elm disease has killed dozens of the Park's stately American Elms and threatens the rest; Diplodia has attacked the Austrian Pines, just as the chestnut blight of 1904 wiped out the Park's stands of chestnuts. Unforeseen disasters like these can eliminate an entire species in a relatively short time. Therefore, it is unwise to allow one species to gain dominance, because its demise can leave great holes in the Park's structure—visually, horticulturally and ecologically. According to the tree census taken in 1982, ten tree species comprise 62 percent of the Park's tree population. Of this group of ten, shown in Table 1, five are self-propagating—the elm, cherry, locust, Norway Maple and Sycamore Maple—and therefore account for a great deal of the sapling growth one finds in the Park today.

Table 1
10 Dominant Tree Species in Central Park

Species	*Number over six inches in diameter*
1. *Prunus serotina* (Black Cherry)	4,260
2. *Ulmus americana* (American Elm)	1,835
3. *Quercus palustris* (Pin Oak)	1,730
4. *Robinia pseudo-acacia* (Black Locust)	1,632
5. *Platanus acerifolia* (London Plane)	1,320
6. *Acer platanoides* (Norway Maple)	1,314
7. *Acer pseudo-plantanus* (Plantree Maple)	935
8. *Fraxinus americana* (White Ash)	837
9. *Quercus rubra* (Red Oak)	766
10. *Ginkgo biloba* (Ginkgo)	549

Although there are many forests composed of only a few species, Central Park was created, as we have seen, to be a place of great botanical variety. Part of its charm still lies in the diversity of its trees and plants. The Park is a place in which one can note the passage of the seasons with endless fascination. The plant list of Central Park contains species of proven hardiness for urban conditions as well as ones that simply increase the interest and beauty of its landscape. Notable among the latter are the conifers. The 1982 tree census found only 961 conifers over six inches in diameter, or 4 percent of the tree population. Conifers were prized by Olmsted because of their interesting evergreen forms and because they provide winter color. The early Park had some 38 conifer species, most of which had practically disappeared by 1982. Deciduous species have also been allowed to dwindle. Table 2 lists 10 unusually fine trees that are represented only sparsely throughout the Park.

In the Park today, there are approximately 47 species of understory plants (trees below 35 feet in height), 107 species of shrubs, 130 species of ground cover and 5 identified water-plant species, but most exist in very small numbers while a few dominate. Those that dominate were planted years ago and are beyond their prime. Notable in this group are Privet (*Ligustrum spp.*), which was once planted heavily throughout the Park, and Black Haw (*Viburnum prunifolium*). Although the Wintergreen Barberry (*Berberis julianae*), Japanese Barberry (*B. thunbergi*), Japanese Holly (*Ilex crenata*) and various types of hawthorn, viburnum, euonymus and forsythia are hardy and dependable, none appears to be self-propagating. If this structural layer is to

Table 2
10 Uncommon Native Trees in Central Park

Species	*Number over six inches in diameter*
1. *Nyssa sylvatica* (Tupelo)	27
2. *Quercus coccinea* (Scarlet Oak)	21
3. *Aesculus glabra* (Ohio Buckeye)	21
4. *Tsuga canadensis* (Canadian Hemlock)	19
5. *Taxodium distichum* (Common Bald Cypress)	15
6. *Quercus macrocarpa* (Bur Oak)	15
7. *Fagus grandifolia* (American Beech)	14
8. *Quercus prinus* (Chestnut Oak)	8
9. *Carya ovata* (Shagbark Hickory)	5
10. *Ilex opaca* (American Holly)	2

"...the artful in-and -out planting of meadow edges has been lost to fairly rigid lines of trees...much of the Park perimeter is bare...shores of water bodies have lost much of their vegetation."

remain diverse, these plants must be planted, maintained and replaced on a regular basis. But they will not by themselves adequately fill out the generally sparce woodland and edge understory where flowering trees and ericaceous shrubs are also desirable, especially those that produce food and cover for wildlife.

Lawn shrink and meadow plant-up

Although there have been rehabilitation schemes and various physical improvements to the Park during this century, there has been very little *landscape architectural intelligence*. The absence of the kind of thinking, planning and caring that was characteristic of Olmsted, Vaux and Parsons was simply missing for nearly 70 years.

Like building architecture, landscape architecture is the design of space. It is not the *objects*—trees, structures, monuments and paths—that make a landscape a park, but their arrangement within various linked spatial configurations. It was pastoral *open space,* the most precious of all commodities in a dense city, that was ardently advocated by Olmsted as the highest and best form of park scenery.

In the early years, much emphasis was placed on the creation of the Park's large meadows, as well as its secluded glades and sunny lawns. The North Meadow and Sheep Meadow were meant to give an illusion of space and vast distance where, in fact, only relatively small space and distance existed. Today, most of the woodland glades have been swallowed up by volunteer, or self-propagating, growth and plantings that have diminished ground-level sunlight and reduced the possibility of a more varied plant and wildlife community. Elsewhere, the artful in-and-out planting of meadow edges has been lost to fairly rigid lines of trees. In most cases, the trees form a wall, making a definite edge and a definite end to a space that in years past was meant to appear never-ending. In addition, the Park's lawns have been planted with trees simply because tree planting was something the Parks Department was supposed to do, and lawns offered the last available spaces.

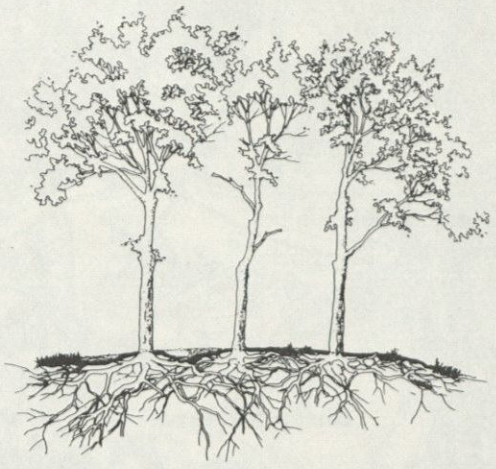
Tree removal has always been a sensitive political issue. It is true that the mere existence of nature within the urban setting is something to be celebrated and protected. But it is also true that landscape architecture—which is the art of *arranging nature* and enriching it horticulturally—cannot be practiced without some judicious, selective tree removal. Today, everywhere throughout the Park, self-propagated trees and those planted too closely together shoulder up against trees of greater beauty and longevity, robbing the soil that nourishes them and killing some of their branches in the competition for sunlight. The lesser trees should be thinned out. And self-seeding trees that block out important views of rocks, water and sky should be removed as well.

Bare borders

Just as important as selective tree removal and maintenance of the lawns and meadows of the interior Park is the planting of edge zones—the entire perimeter, the sides of the transverse roads, the margins of water bodies and the borders existing between woods and meadows.

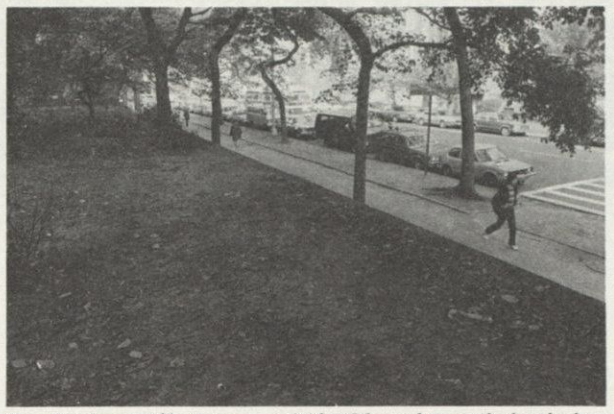
Today, much of the perimeter around the Park is bare and eroded. Scattered along its length are some sparse aged shrubs, a few fine trees and many volunteer saplings. The same thing is true along the transverse roads. A program of banking the transverse roads with new trees and densely planted shrubs is currently under way. Because of the excellence of the original design, including the modeling of the topography around them, the sunken transverses virtually disappear when thickly planted, and the sights, sounds and fumes of the traffic are effectively screened out. The plantings along the entire perimeter require special care, because they must withstand the harsh climate of the city streets. They perform the debilitating task of filtering out poisonous exhaust fumes. In the winter they are, in addition, splattered with rock salt.

A perimeter problem that is more difficult to reverse is caused by dog-walkers, who make 1 million visits to the Park each year. The plantings along the Park border, especially at entrances, suffer the most. The ammonia content of dog urine kills shrubs, ground cover, grass and even trees. It has been simpler to plant, maintain and remove vegetation than to enforce rules that dog-walkers curb their dogs.



Three trees: a full canopy, struggling trees and little or no ground cover.

Two trees: a full canopy, healthier trees, thick ground cover.



Bare borders: Fifth Avenue at 95th. Olmsted prescribed a thick understory for the Park perimeter.

Water bodies are among the Park's most popular features, but off-path pedestrian traffic has long ago eroded many pond and lake edges. At the Harlem Meer, the 59th Street Pond and the southern edge of the Lake, the problem has been addressed with rock edging set in concrete. Erosion was controlled in these cases at the expense of water-edge vegetation. The water bodies, which had originally seemed so natural, assumed an artificial, "engineered" appearance quite alien to the lush, naturalistic look intended by Olmsted. The Lake and the Pool, still more naturalistic than the others, have lost much of their vegetation—both emergent and shore—and are bare and eroded. The result is not beautiful, nor is it effective as a wildlife habitat, since that requires lushness and variety.

The important ecological and visual edge zone between woodland and meadow is in many instances depleted and spare. What should be a rich and complex structure—ranging from overstory to herbaceous plants, grasses, shrubs and understory saplings—is often missing all but the overstory component and the ground plane grasses. From both aesthetic and habitat standpoints this condition is not acceptable.

Wildlife and Habitat Problems

The quality of the Park's wildlife habitats is related to the health and diversity of the Park's overall vegetative community. Many of the problems cited for the other parts of the Park are problems for the Park's wildlife areas as well. In addition, vegetative elements that enhance the wildlife population, such as small herbaceous openings, deadwood, thick brushy areas, running water and wetland areas, are often missing or exist in less than optimal quantities.

Goals

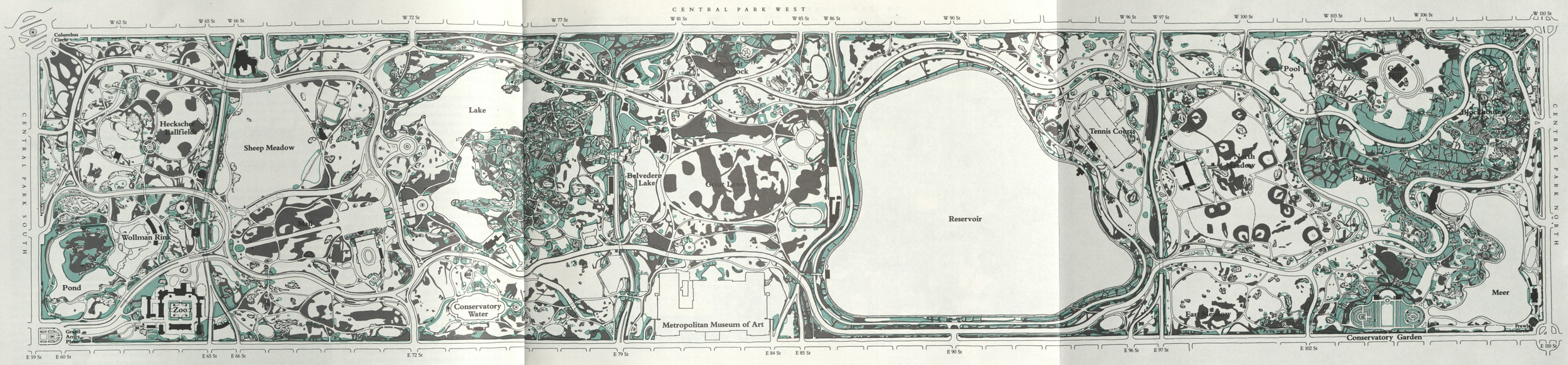
The overriding goal for the Park's vegetation is, quite obviously, a healthy and diverse community. This includes ensuring the survival of the Park's fine old trees and providing for a successor generation. It also entails replanting the now-missing middle layer of vegetation—the shrub and understory trees that once provided both an effective buffer between Park and city and a congenial habitat for wildlife—and reestablishing a completely covered ground plane. Other goals include the continued reinstatement of irrigation, standards of turf management and Park rules that will enable visitors once again to enjoy soft green lawns, good athletic turf and meadows spangled with flowers. Similarly, the major goal for wildlife in the Park is to maintain a wide variety of species through habitat improvement, sound ecological management and protection from human interference.

Recommendations

Woodland. Although the three wooded sections of the Park—the Bird Sanctuary, the Ramble and the North End—differ in character and have different needs (which will be discussed in Part III), the following general recommendations apply to all of them.

- When replanting overstory trees, priority should be given to native food-producing (mast) species.
- Understory trees and shrubs should be increased in number and variety. Rebuilding this middle layer of the Park's woodlands will greatly enhance their beauty and multiply the opportunities for wildlife. It will be necessary to remove a certain amount of volunteer growth and improve the condition of the soil in order to do this.
- Small openings such as glades and lawns, some with only limited mowing to keep down woody growth, should be reestablished. Their edges,

The Ground Plane: Grass, Shrubs, Rocks, Weeds and Bare Spots



A Profusion of Barren Ground
Nearly twenty-five percent of the Park consists of bare ground (dark gray). There are several causes and a number of possible remedies.

Organized Sports. The Park has 26 ballfields, 36 tennis courts and 22 playgrounds. All are additions since the Park was built.

Impromptu Sports. Pickup baseball, football and Frisbee games generally take place on whatever flat open ground is conveniently available. Lawns are quickly turned into bare ground through such use.

Enforcement of rules by Park rangers is the most effective means of curtailing this type of erosion.

"Desire lines" and Errant Foot Traffic. Where the established path system does not adequately serve the needs of the Park's users, the users make their own paths. The confused arrangement of paths at the Southwest Corner is a prime example; erosion here is compounded by heavy tree cover that makes it difficult to grow grass in the first place. The large, almost solid mass of bare spots to the east and west of the Great Lawn is testament to the inadequate east-west circulation system in this part of the Park. People coming from the West Side virtually spill over the Drive, across the grass and onto the Great Lawn along its full length.

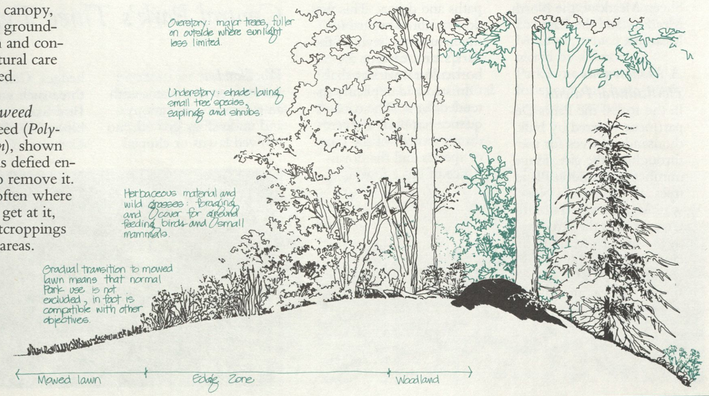
Rearticulation of the path system and the placement of such barriers as benches, low fences and thorny shrubs beside paths can help direct pedestrian traffic in ways less harmful to the landscape.

Tree Cover and Erosion. Grass and ground covers are unlikely to grow in places where little sunlight penetrates. Under these conditions, where slopes are steep, erosion is inevitably severe. Bare spots in the hilly and heavily wooded Ramble area are cases in point.

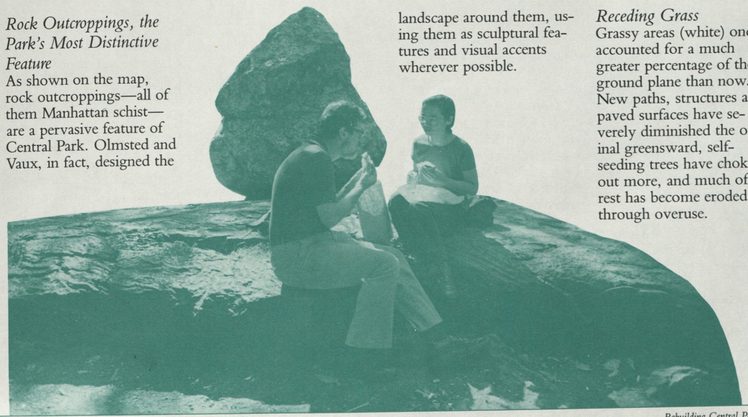
The Lack of Understory and Shrubs
Central Park is remarkably barren of herbaceous vegetation and understory trees (light green and dark green). Such plants exist mainly in the Southeast Corner and in the Bird Sanctuary, the Ramble, the Northwest Corner and along the transverse roads. But they have disappeared in much of the rest of the Park, mainly because of the dense tree canopy, insufficient sunlight and inadequate maintenance.

Thinning of the canopy, planting of new ground-plane vegetation and continuing horticultural care are recommended.

Persistent Knotweed
Japanese knotweed (*Polygonum cuspidatum*), shown in light gray, has defied energetic efforts to remove it. It occurs most often where mowers cannot get at it, around rock outcroppings and in wooded areas.

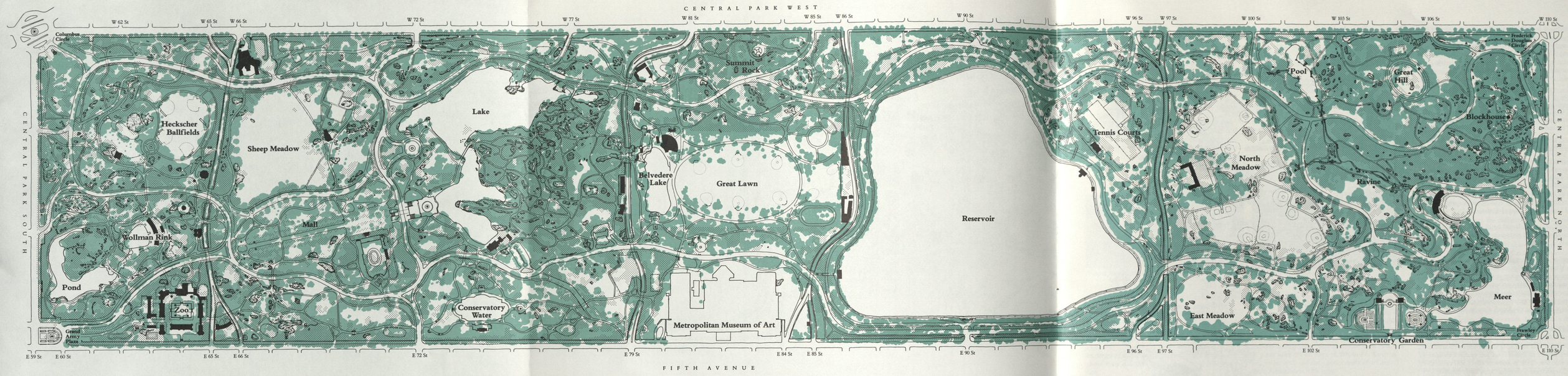

Overstory: major trees, fuller on outside where sunlight less limited
Understory: shade-loving small trees, spaces, saplings and shrubs
Herbaceous material and wild grasses, forbs, and cover for ground feeding birds and small mammals.
Gradual transition to mowed lawn means that normal Park use is not excluded, in fact is compatible with other objectives.
Mowed Lawn
Edge Zone
Woodland

Rock Outcroppings, the Park's Most Distinctive Feature
As shown on the map, rock outcroppings—all of them Manhattan schist—are a pervasive feature of Central Park. Olmsted and Vaux, in fact, designed the landscape around them, using them as sculptural features and visual accents wherever possible.



Receding Grass
Grassy areas (white) once accounted for a much greater percentage of the ground plane than now. New paths, structures and paved surfaces have severely diminished the original greensward, self-seeding trees have choked out more, and much of the rest has become eroded through overuse.

The Tree Canopy: 1873 and Today



The vast increase in the number and density of trees in Central Park accounts for the most dramatic difference between the Park today and the Park as it was in 1873. Hundreds of trees have been planted by a succession of Park managers, sometimes wisely, sometimes not; even more trees took root by self-propagation, most notably maples and Black Cherries. The public's resistance to tree removal has made it difficult to control the increase, or to cut back the ever-thickening canopy. As a result, trees compete with one another for sunlight and nutrients and cause erosion as they shade out more and more of the Park's lawns.

A Continuous Canopy
It was Olmsted's intention that a solid tree canopy occur in only a few places: parts of the Ramble and North End and along the transverse roads and the edges of the Park, as shown by concentrations of dark green dots. Today, however, a continuous canopy nearly blankets the Park, blocking out sunlight from the ground plane.

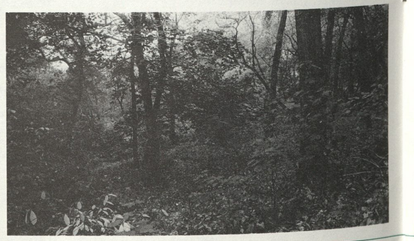
The Loss of Open Space
Over time, the spreading canopy has engulfed many small meadows throughout the Park and encroached upon the large open spaces—the Sheep Meadow, the North Meadow and the East Meadow, each of which was larger and more sweeping than it is today. Trees now obstruct the once-commanding views from the Blockhouse, at the North End, and Summit Rock, at 83rd Street and Central Park West, the highest natural elevation in the Park.

A Solid Wall at the Meadows' Edge
The original Greensward Plan called for a loose configuration of trees at the edges of meadows in order to give the impression of receding lawns rather than ones that terminate abruptly. The latter effect, unfortunately, now prevails. The individual specimens and loose clumps of trees that once gave the meadows an illusion of indefinite space have been cut back to make room for ballfields and tennis courts. Meanwhile, the trees behind them have filled in. Consequently, rigid walls of trees now ring the Sheep Meadow, the North Meadow and the East Meadow.

A Monotonous Horticultural Palette
In the 1930s, the Parks Department ordered by bulk thousands of trees for use throughout the city. Huge numbers of London Plane trees, Pin Oaks and Norway Maples were put into Central Park the same way they were placed along the city's streets and highways—often in evenly spaced rows along the paths and drives. This was done without regard for the naturalistic style of the Park's landscape or the horticultural variety that Olmsted had explicitly intended for it. The consequence has been a severe diminishment of the range of species and the dominance of but a few.

Central Park's Three Types of Landscape

Woodland
A forest environment with an extensive tree canopy and understory growth, no mowed lawns or clipped hedges. Central Park has three such woodlands: the Bird Sanctuary, the Ramble and the Northwest Corner.



Parkland
A combination of green turf, specimen trees and tree groves with no understory growth. Examples of parkland are the Mall, the landscape around the Conservatory Water and much of the Park perimeter.

Meadow
Wide open lawn areas with, ideally, a loose border of trees (the Sheep Meadow, North Meadow and East Meadow). Central Park's meadows are designed in imitation of the rural man-made landscapes of the English countryside. Except for the Sheep Meadow, which is protected by a fence, all the Park's meadows are used for sports and have extensive bare patches.

which are ecologically significant zones, should be developed, or allowed to develop, as brushy and densely planted zones where irregularity and structural complexity are the desired effect. Again, in order to create desirable open spaces, a certain amount of judicious tree removal may be necessary.

- Picturesque details—intimately scaled vines, mosses, bulbs and ferns where possible—should be reintroduced to surprise and delight the eye.
- Ordinances prohibiting free-roaming dogs should be enforced.
- Destructive off-path foot traffic should be discouraged through policing or designed barriers.
- A certain number of dead trees typical of "old growth" forests should be left in place, because they are part of the woodland ecology hospitable to wildlife. Some fallen deadwood must remain as well. Leaf litter must also remain, because it enriches the soil, reduces erosion and provides essential foraging for ground-feeding birds.
- A staff ecologist should be hired to participate in management and restoration decisions in the woodlands.

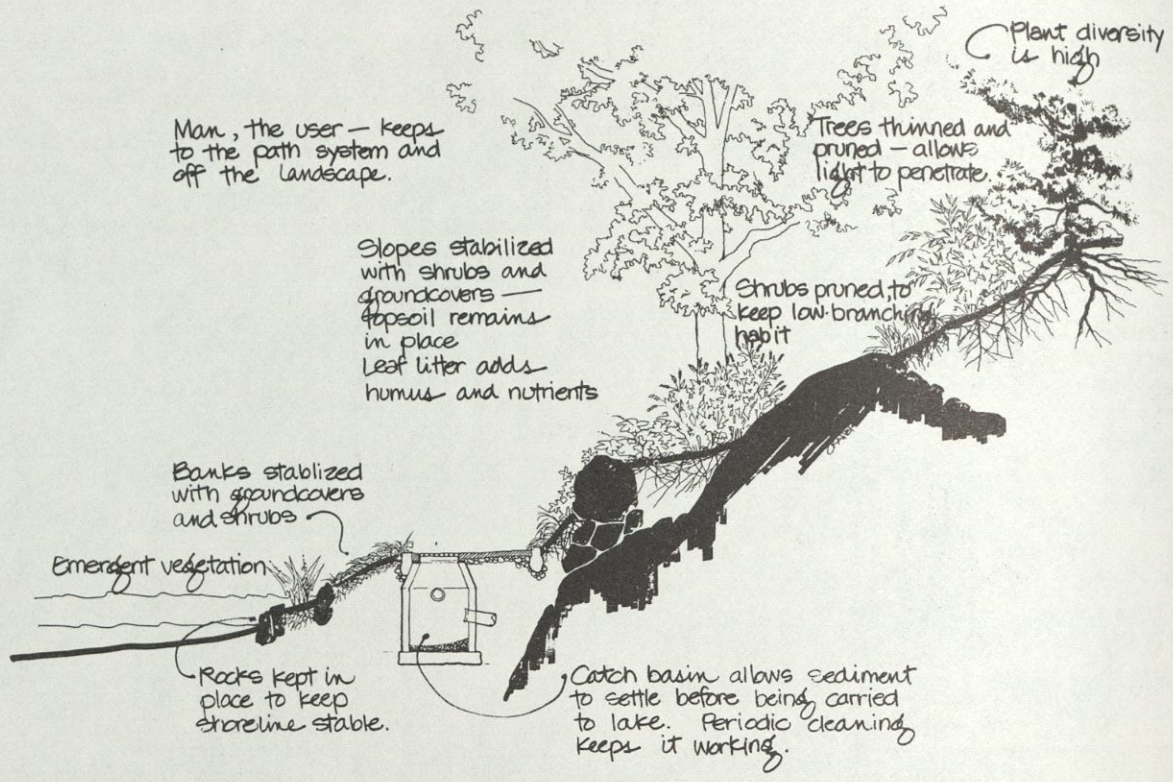
Meadow. Even though the Park is surrounded by buildings, it is still possible to reestablish the illusion of unlimited space in parts of the Park. The meadows offer this opportunity. To re-create a sense of free unbounded openness, it is necessary to apply the same artistry in landscape composition as was used during the Park's first 50 years.

- Meadow edges should be made irregular and indefinite. Where now a virtual wall of trees exists, ever tightening and shrinking the meadows' boundaries, there should be indentation and spatial extension of the tree line. This in-and-out effect will cause the eye to perceive a flowing, apparently limitless greensward rather than a tightly defined open space. In order to achieve this, it will be necessary to remove some trees and to plant others. However, specimen trees should be retained even if they are inappropriately sited, but then not replaced when they die.
- Meadows should be classified according to their location and their kind of use. This classification should determine the soil preparation, drainage system and grass mixtures used. Irrigation, systematic aeration, overseeding and fertilization should be scrupulously practiced to reduce potential damage and deterioration, and sufficient "rest periods" enforced.

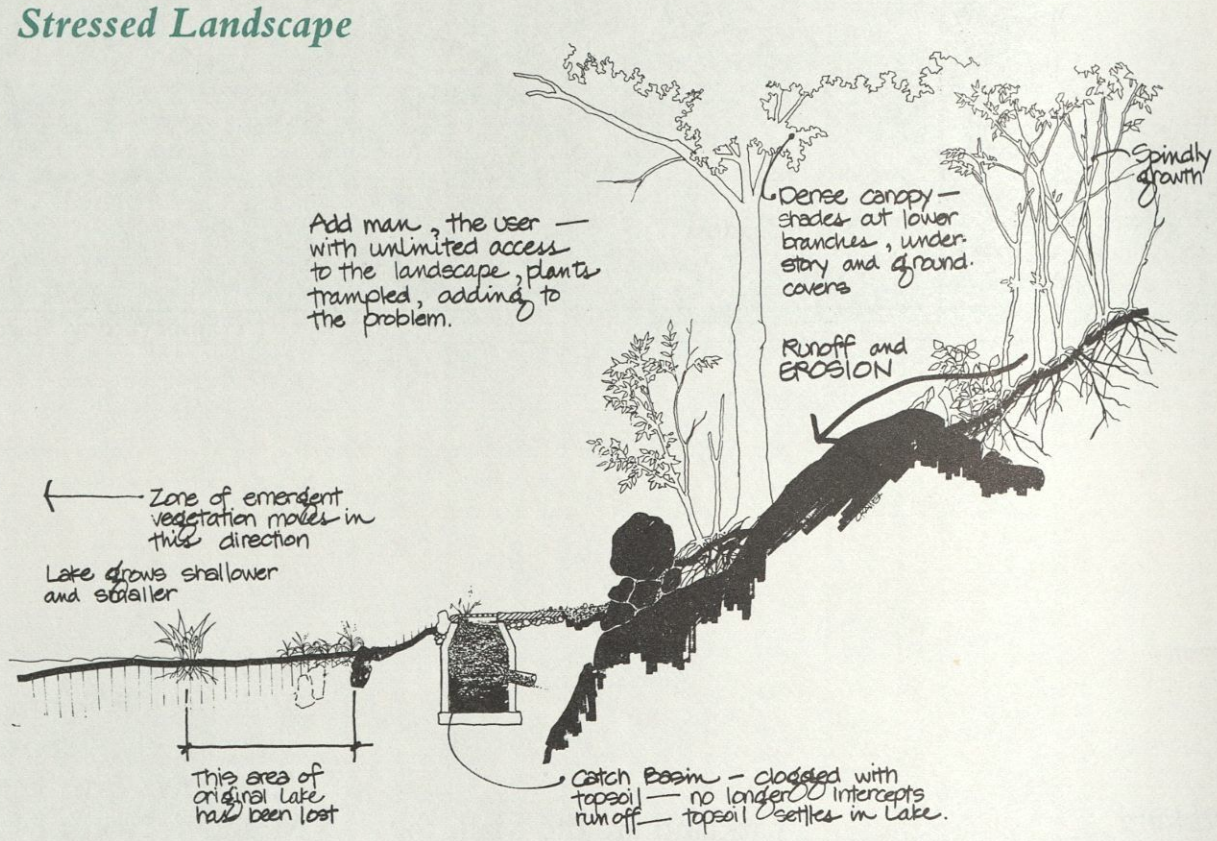
Parkland. This is the general and predominant Park landscape, grounds that are neither meadow nor woodland but open lawns with scattered trees.

- Good turf management should be continually practiced to ensure a continuous greensward. This includes soil reconstitution and lawn reconstruction; proper drainage and irrigation; application of different seed mixtures to correspond with environmental conditions (sun, shade, slope) and intensity of use; and periodic liming, fertilization, aeration and overseeding.
- Trees should be pruned and thinned where necessary to prevent unhealthy competition and shading out of lawns. Fertilizing, cabling and other types of tree care should be applied as necessary.

Healthy Landscape


Plant diversity is high
Man, the user — keeps to the path system and off the landscape.
Trees thinned and pruned — allows light to penetrate.
Slopes stabilized with shrubs and groundcovers — topsoil remains in place
Leaf litter adds humus and nutrients
Shrubs pruned, to keep low-branching habit
Banks stablized with groundcovers and shrubs
Emergent vegetation
Rocks kept in place to keep shoreline stable.
Catch basin allows sediment to settle before being carried to lake. Periodic cleaning keeps it working.

Stressed Landscape


Spindly growth
Dense canopy — shades out lower branches, understory and ground covers
Add man, the user — with unlimited access to the landscape, plants trampled, adding to the problem.
Runoff and EROSION
Zone of emergent vegetation moves in this direction
Lake grows shallower and smaller
This area of original lake has been lost
Catch Basin — clogged with topsoil — no longer runoff — topsoil settles in Lake.

General Recommendations

The following recommendations apply throughout the Park:

- Plant diversity should be increased to provide greater botanical interest and ecological richness. A variety of turfs should be maintained, ranging from wild meadow mixtures to manicured lawns and bowling greens.
- Plant density, especially density of understory trees, shrubs, grasses, vines and herbaceous material, should be increased to control erosion and screen traffic along the Park's borders and transverse roads.
- Japanese knotweed should be controlled.
- Planting should be prohibited in all present open spaces unless it is done for replacement purposes or for a compelling design reason.
- The following criteria for planting new trees should be strictly observed: a.) augmentation of an important and underrepresented species; b.) introduction of new species; c.) replacement of an appropriately placed dead or dying tree; d.) restoration of a historic effect.
- Vegetation should be protected by strict enforcement of leash laws. The application of harmful salts after a snowfall should be kept to a minimum.
- Evergreens should be reintroduced throughout the Park, particularly in woodlands, wildlife areas, along the Winter Drive and at picturesque rock outcroppings.
- An integrated pest-control plan should be pursued.
- Water-body banks should be replanted with shrubs and herbaceous plants. Emergent vegetation should be encouraged at water edges. Partially submerged logs should also be placed occasionally to provide resting and basking sites for turtles, frogs and waterfowl.

Managing Central Park

"...the large capital reinvestment recommended in this report can be protected, and the trend of spiraling deterioration through insufficient maintenance can be reversed."

Introduction

> A man may buy and fit up a costly house, but if, after he has done so, he finds coal and ashes scattered over his carpets, if decorated ceilings are stained and marred, if pictures are defaced, windows and doors kept open during storms, beds used as tables and tables as beds, and so on, all that he has obtained for his expenditure will be of little value to him . . . through inefficiency of housekeeping. In the same way a park, as in the case of Central Park, will depend on the prevention of mis-use, which again is a question of the efficiency of park-keeping.
>
> —Frederick Law Olmsted

The "efficiency of park-keeping" in Central Park has, unfortunately, never been commensurate with its maintenance needs. Today's planners and managers, with the aid of early photographs, can conjure up a vision of thick carpets of turf, beautiful shrub borders, flourishing trees and structures always in a state of good repair. Such scenes did and still do exist here and there, but in reality, routine maintenance in Central Park has never been adequate to preserve Olmsted and Vaux's landscape masterpiece. Instead, Central Park has had to undergo periodic major capital reconstruction to shore it up and reverse the progress of deterioration.

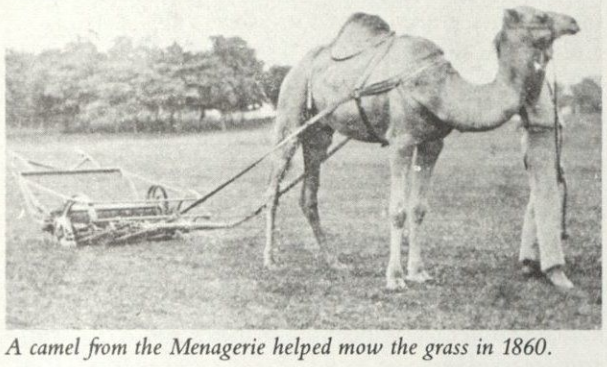
The purpose of this chapter is to show how the large capital reinvestment recommended in this report can be protected and the trend of spiraling deterioration through insufficient maintenance reversed. As has been explained elsewhere, this plan is based on the premise that Olmsted's naturalistic park ideal is still valid. His vision, however, has been realized only intermittently throughout the Park's history. Part of the reason may be cultural change and a corresponding reflection of this change in the way the Park has been managed. A cultural phenomenon itself, the Park is also an expression of the general culture of the times. It is interesting, therefore, to examine how the Park's management over time reflects shifting cultural moods as public sentiment has veered from romanticism to recreation to facilities-building and mass events and back again to scenic preservation.

Besides charting these changes in management emphasis, we will examine funding levels for Park maintenance and the impact of New York City's mid-1970s fiscal crisis—a period that represents not only the nadir of the Park's physical condition but the nadir of its management as well. The problems at that time were more than financial; they were also systemic. In an effort to reverse the situation, various management improvements have been put in place since the election of Edward I. Koch as Mayor in 1978 and the appointment of a Central Park Administrator in 1979.

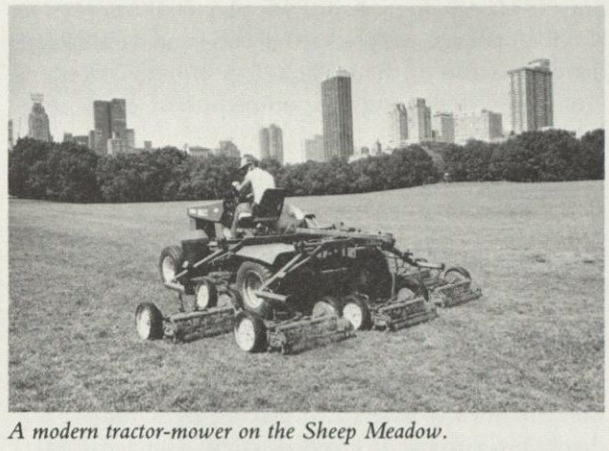
The management improvements that have already begun, as well as others outlined in this plan, depend upon an administration that is heavily decentralized. Central Park's decentralized administration now serves as a model for other large regional parks within the New York City system. One of the objectives of this plan is the continued building of a management structure that vests primary responsibility for Central Park's operations in its own chain of command rather than in the boroughwide management structure. This does not mean that close coordination and cooperation with the Manhattan Borough Commissioner and other Parks Department officials is not necessary or desirable, only that Central Park is ensured the specific individual management attention that it deserves because of its exceptionally heavy use and general importance within the parks system.

The management innovations that have occurred since 1980 have been mainly in the areas of horticulture and structural preservation, including graffiti removal. New crews have been formed for these areas, but their funding has occurred at the expense of the basic maintenance and operations work force. Rebuilding the entire work force and improving its productivity is essential if the Park is not to fall into disrepair and deterioration again. Improving the services that support the work force—adequate space for maintenance operations, sufficient vehicles and other mechanical equipment, reliable purchasing procedures and good management information systems—is also important.

Finally, as a reflection of Central Park's decentralized management, this plan contains an expense budget for Central Park, the first to be prepared in many years. In 1975, and again in 1980, retroactive budgetary analyses of Park expenditures were prepared by consultants. These studies were based on personnel data, purchase orders and work orders reconstructed from several general departmental management information systems. Now and in the future, Central Park's operations can be measured against its own budget. This budget, which forecasts the Park's management needs as far ahead as 1995, encapsulates the job descriptions, manpower allocation, level of work-force buildup, and the equipment and supplies necessary to maintain the health of Central Park in the future.



A camel from the Menagerie helped mow the grass in 1860.



A modern tractor-mower on the Sheep Meadow.

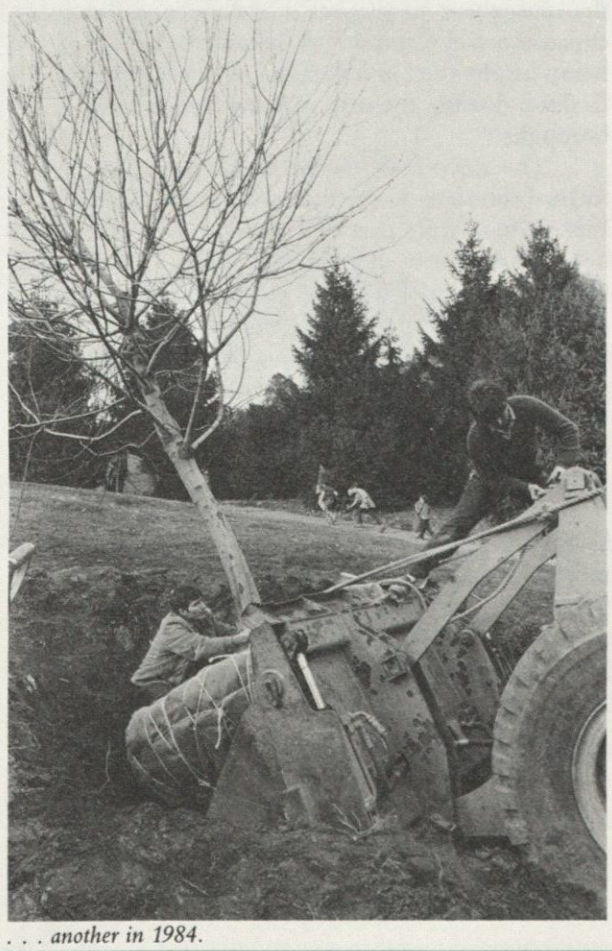
A Brief History of Central Park's Management

In the winter of 1858, Olmsted boasted in a letter to his father to "have got the Park into a capital discipline, a perfect system, working like a machine, 1,000 men now at work." Later that year there were as many as 2,500 under his direction. This army of laborers was employed mainly on the construction of the Park, a welcome public-relief project following the financial panic of 1857. There are records of both construction and maintenance expenditures for these early years, and they reveal, not surprisingly, increased maintenance needs as more parts of the Park were finished. Early Park budgets show an emphasis on landscape management, maintenance of the unpaved drives, and security and rule enforcement.[1]

In 1873, approximately 550 of the Parks Department work force of 882 men were assigned to Central Park. Although the building of the Park was nearing completion, more than half the work force was still engaged in Park construction work.[2] The budget for that year reflects the same maintenance priorities mentioned above, as well as the additional new responsibilities that had been assigned to the Central Park work force, such as caring for the sheep in Sheep Meadow and the animals in the Central Park Menagerie and maintaining an increased number of buildings, masonry walls and bridges.[3]

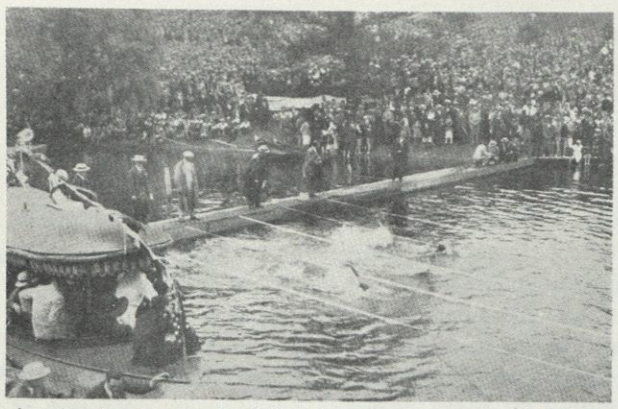
Throughout the remaining years of the nineteenth century, foresighted planners laid out a com-

A tree is planted in 1880. . .



. . . another in 1984.

"...during the late 1960s the use of manpower shifted from day-to-day maintenance to setting up and taking down equipment for an ever-increasing round of festivals, concerts and political rallies."



A swimming meet in the Lake, 1927.

One of many foot races on the Park Drive, 1984: events that have long been associated with Central Park.

prehensive park system, with parkways linking large parks in each of the counties that would become the five boroughs of New York City. Central Park became just one of many New York parks, albeit the most popular and famous. In 1914, four commissioners were appointed to administer these parks, one for each borough, with Manhattan and Richmond (Staten Island) operationally linked under a single commissioner.

This was the reform era, and an entire profession of recreation supervisors and employees was emerging throughout the country. In New York, after initially being organized under a Public Recreation Commission, recreation personnel were integrated into the Parks Department. At first, this change was felt more outside of Central Park, where in addition to new playgrounds and recreation centers, department-operated school farms were set up where urban children were assigned garden plots and taught basic agricultural techniques. Within the Park, the emphasis prior to World War I was still on the traditional function of groundskeeping. The skewing of the Park budget to emphasize events and recreation at the expense of landscape maintenance did not occur until later.

The full-time work force in the period before World War I looked something like this: one arboriculturist, 19 mechanics, 7 climbers and pruners, 4 foremen, 10 gardeners, 14 drivers and hostlers (horses performed much of the work done today by motorized vehicles) and 100 laborers. There were also perhaps a dozen permanent recreational employees working in the Park, supplemented by another 15 seasonal recreational employees.[4]

After World War I, the Park's landscape was allowed to deteriorate severely. This decline was detailed in a 1927 report by Hermann W. Merkel, the Parks Department landscape architect. His recommendations included, among other things, the assignment of an individual supervisor to Central Park and the subdivision of the Park into seven or eight precincts with a foreman and gardening crew assigned to each. (It is approximately this system that survives today, although the recently formed horticultural crews are organized along functional lines—tree care, planting, turf management—and they perform their duties on a parkwide basis.)

During the Depression, federally funded work programs and the bold leadership of Robert Moses transformed Central Park's landscape and its administration. Moses employed hundreds of architects at the Parks Department's headquarters in the Arsenal to design projects that relief workers could undertake. The Central Park projects were announced in rapid succession as work progressed. In 1934, Moses's first year, a prodigious amount of work was reported in the *New York Times:*

February 28, 1934: The conversion of the Sheepfold to a picturesque popular restaurant.

April 6, 1934: Plans for the 32-acre site of the old reservoir to become the Great Lawn.

May 1934: An increase in Park play facilities such as handball courts, roller-skating areas and sandboxes; the conversion of the stable north of 97th Street into a field house and the completion of 13 ball diamonds.

November 11, 1934: The razing of the Conservatory at 104th Street and Fifth Avenue.

November 21, 1934: A new entrance completed at 61st Street and Fifth Avenue.

December 1934: The new Central Park Zoo opened.

In addition to the reconstruction of specific sites, Moses's workers also planted trees and shrubs, weeded and reseeded lawns, and repaired walks. A *Times* article of October 24, 1935, notes that 2,100 laborers and 500 mechanics worked on the Park's $2 million rehabilitation, approximately the same number that worked on the Park's construction in 1858-59. Because of the Depression, and with federal funds at its disposal, the Parks Department was able to recruit exceptionally able employees who could not find work in the private sector. Moses enlarged the department's staff of architects and engineers to 1,800 and hired hundreds of former estate gardeners.

Moses also abolished the positions of the relatively autonomous Borough Park Commissioners, centralizing all authority under himself—an act that makes an accurate assessment of Central Park's budget allocations after 1934 difficult. But it is fascinating to look at the entire parks system during the subsequent 30 years as it underwent a five-fold expansion and Central Park became only one of many bright stars in a firmament of recreational facilities dotting the map of New York's five boroughs.

The 2,600 laborers and mechanics who performed the stem-to-stern renovation of Central Park in 1934 were part of a 45,000-man army of relief workers financed by the Civil Works Administration and later the Work Projects Administration (WPA). Moses captured this resource with enormous zeal and energy and diverted it from make-work projects to building new parks, playgrounds, beach facilities and swimming pools. He added 6,000 acres to the parks system in the first six years of his administration.

But the budget provided by the city did not keep pace with Moses's building program. While recreation facilities increased by 200 percent between 1934 and the eve of World War II, the expense budget for parks increased by only 25 percent. In 1940, Moses sounded a familiar complaint:

> Insufficient foremen are provided for supervision. There are insufficient mechanics for work which has increased three-fold. Most of the automotive equipment is obsolete, worn out and should be replaced. Insufficient foresters attempt to maintain 2,250,000 trees in City streets and parks with the result that thousands of uncared for trees are a public menace. Facilities less than six years old have already begun to deteriorate due to inadequate maintenance.[5]

World War II put an end to the first park-building era of the Moses administration and exacerbated the manpower problem as workers joined the armed forces or left for higher paying jobs in industry. Robert Moses, however, was first and foremost a master builder, and throughout the war years he kept his staff of architects and engineers busy planning and designing over $100 million worth of new postwar construction: 273 projects including everything from refurbishing small playgrounds to constructing new beaches and parkways. In 1945, when the war ended, finished plans were already in hand for the Wollman Rink, the Loeb Boathouse and the 110th Street Boathouse—all in Central Park.

Moses believed there was popular demand for this program and that it would provide jobs in the transition economy. He reasoned that somehow the city would come up with money to maintain the increasingly complex parks system. His acclaim and that of the mayors he served rested on groundbreaking ceremonies, not on routine maintenance. But with the withdrawal of the federal relief programs in the late 1930s, the work force had leveled off at around 4,500 full-time maintenance personnel and 2,800 seasonal workers, and it was never increased, even though land acquisition and the opening of new facilities continued during the 1950s and the first half of the 1960s. By this time, the maintenance problem was becoming more and more difficult to resolve.

Even though the Parks Department budget represented 2 percent of the overall city budget throughout the Moses years (a healthy figure by today's standard, which is less than 1 percent), it was never adequate to maintain a system that had grown to 35,760 acres by 1964.[6] In the late 1960s and early 1970s, as the city's expenses began to exceed its revenues, cuts in the form of work-force attrition were imposed on the Parks Department, which represented a less vital and therefore more dispensable section of city government.

Ironically, these cuts came at a time when Central Park's popularity was growing exponentially and as many as 1,000 special-event permits were being issued each year. It was during this period that emphasis in the use of manpower shifted from day-to-day maintenance to the setting up and taking down of equipment and the removal of tons of garbage generated at an ever-increasing round of festivals, concerts and political rallies. The allocation of its scarce manpower resources is still a problem that plagues the Parks Department. Nowhere in the system is this problem more difficult to resolve than in Central Park, the traditional gathering spot for large celebrations and the sideline host for dozens of parades along Fifth Avenue.

The abuse of the Park by large crowds and the abandonment of consistent-use policies were demoralizing to long-time Park workers. Motivation was further sapped by inadequate tools and equipment. There was another problem as well. Productivity was hampered by the narrowly defined job titles and elaborate work rules of the civil service system. For example, motor-vehicle operators who drove crews to work locations were not permitted to assist the crews in their work. A Bureau of the Budget report of 1974 assessed labor crew productivity at 30-35 percent and took the Parks Department to task for the inadequacy of its long-range planning, management-information systems, standard operating procedures and manuals, work-force supervision and management of capital projects.

Some of the same criticisms were leveled in a 1975 report prepared by E. S. Savas, a professor of public-systems management and director of the

"In some ways, the fiscal crisis proved a spur to reform."

Center for Government Studies at Columbia University. Savas observed declining personnel numbers and man-hours worked by Park employees. He saw insufficient reliance on part-time rather than full-time permanent employees, inadequate mechanization of work and, most significant, a complete absence of a parkwide administrative structure to make long-range plans, policies, budgets or even routine day-to-day work assignments. The actual manpower level, though declining in the early 1970s, was, Savas felt, "sufficient to provide a much higher standard of performance than is currently achieved" but did not do so because of management failure.

There were, in fact, more permanent full-time Department-funded workers in Central Park in the early 1970s than there are today, and funding was actually rising during those years. Savas calculated Central Park expenditures during 1972–73 as follows:

Expenditures in 1972-73[7]

Source	
Department of Parks*	
Personnel	$5,913,451
Materials	179,651
Capital expenditures	289,987
Department of Cultural Affairs	171,750
Department of Recreation	265,641
Police Department	2,977,158
Private contributions	27,094
Total	$9,834,732

*Includes fringe benefits

Included among the recommendations of the Savas report were the administration of Central Park by a chief executive officer and the creation of a Board of Guardians to bring continuity of policy and planning to the Park and to oversee its budget and operations.

In some ways, the fiscal crisis proved a spur to reform. With the mass layoff of 800 workers in June 1975, it became necessary to "broadband," or generalize, the proliferation of civil service job titles. After two years of negotiation with District Council 37 of the Municipal Workers Union, which represents the Parks Department's civil service work force, 23 titles were collapsed into 6. Unfortunately, at the same time, because of the city's budgetary chaos, the Parks Department became dependent upon federal funding through the Comprehensive Employment and Training Act (CETA) to pay half of its 6,000 "permanent" employees. While this expediency kept the agency functioning, it did not fulfill the intention of the CETA Act, which was to provide job skills to young unemployed people. It also effectively destroyed the concept of a Parks Department career work force, since the CETA regulations mandated that "trainees" be rotated out of their jobs after 18 months.

With the resolution of New York's fiscal crisis by the Koch administration and the phasing out of the CETA program by the Reagan administration, it became both possible and necessary for the Parks Department to "buy back" many of these workers in 1980 and to reestablish the opportunity for lifetime park careers. In addition to this important fact there have been other significant changes since the beginning of the Koch administration in 1978, as a comparison of Central Park staffing in 1977 and 1984 shows.

Between 1977 and 1984 a boroughwide security program started operating out of Central Park, and a work force of Urban Park Rangers was organized to provide public assistance and education. Park education and other visitor services are now provided at the Dairy and the Belvedere. Horticultural care and preservation of stone, bronze and rustic wooden structures are being carried out by recently formed crews which operate as an in-house landscape construction team part of the time and as general groundskeepers and repair crews the rest of the time.

Central Park Staffing[8]
April 1977

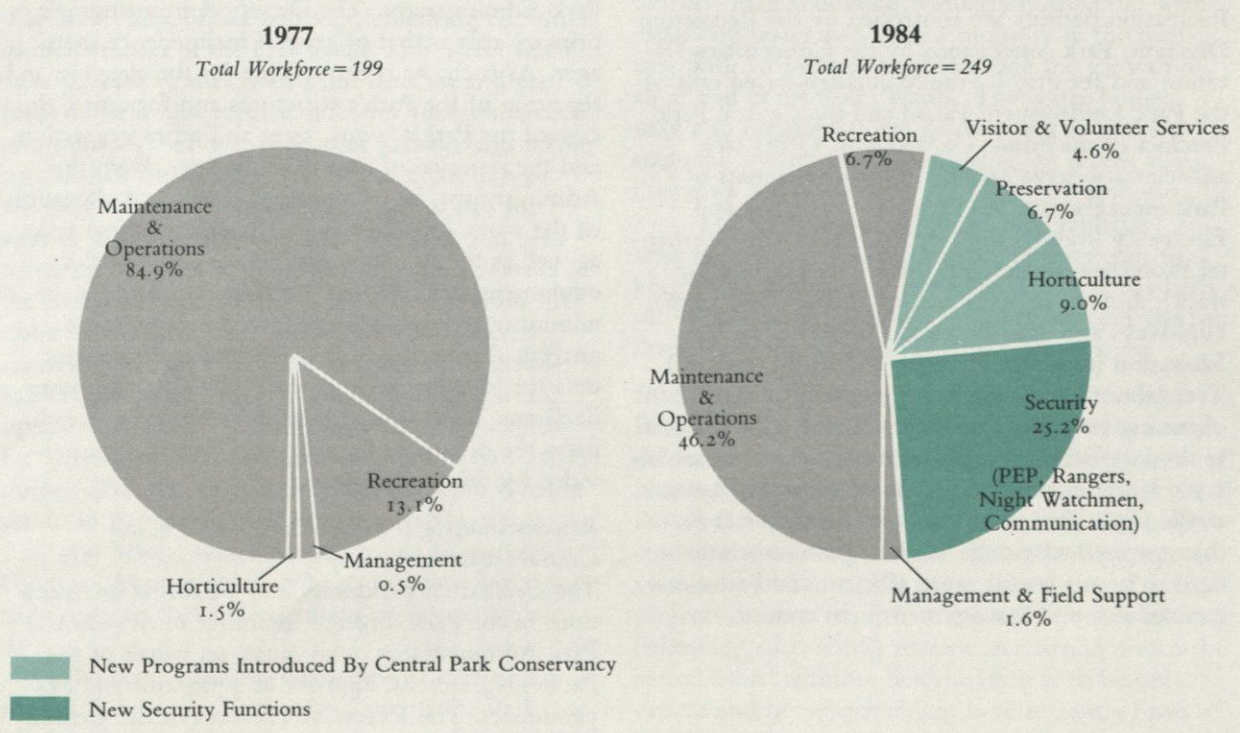
Functional Assignment	Central Park Totals
Maintenance and Operations	
79th Street Yard	24
Sector Maintenance (excluding Lower Park and North End of Park)	87
Wollman Rink and Lower Park (including Central Park Zoo)	26
Lasker Rink and North End of Park	17
Children's Zoo	15
Subtotal M&O	169
Recreation	
Puppets, marionettes, other recreation	26
Horticulture	3
Management and Field Support	1
Total	199

In summing up these two tables, taking into account that only 15 to 20 security workers are active in Central Park at any given time, it becomes apparent that the overall work force has actually decreased somewhat between 1977 and 1984. What emerges, in fact, is a fairly sharp diminution of city funding for the traditional Park maintenance worker. As new programs in security, horticulture and preservation have started up, scarce budget dollars have been shifted away from the basic work force and into these areas.

Central Park Staffing
April 1984

Functional Assignment	Department of Parks	Central Park Conservancy	Total
Maintenance & Operations			
79th Street Yard	33	1	34
Rink & Pool Maintenance	25	0	25
Sector Maintenance	49	0	49
Sub-total M & O	107	1	108
Horticulture	7	14	21
Preservation	8	8	16
Visitor Services			
Puppets, Marionettes	10	0	10
Belvedere/Dairy	4	5	9
Volunteer Coordination	1	1	2
Sub-Total Visitor Services	15	6	21
Security			
Communication Center	11	0	11
Night Security	17	0	17
Park Enforcement Patrol	17	0	17
Urban Park Rangers	14	0	14
Sub-Total Security	59	0	59
Central Park Administration	2	7	9
Design & Planning	2	3	5
Conservancy Administration	0	2.5	2.5
Conservancy Fund Raising	0	7.5	7.5
Total	200	49	249

Figure 1
Central Park Work Force
1977 and 1984



"Administratively, however, there is still room for improvement....the system is too fragmented."

The changes described above are the result of initiatives during the administration of Commissioner Gordon J. Davis (1978-1982) and his successor, Commissioner Henry J. Stern. With the appointment of Elizabeth Barlow in 1979 as the first Central Park Administrator and the creation of the Central Park Conservancy a year later, the Park gained two things previously recommended by the Savas report: (1) administrative responsibility vested in a single individual with knowledge of, and concern for, the entire range of Park operations, and (2) a group of Park enthusiasts and guardians willing to develop substantial support for new projects and programs that would reestablish Central Park's preeminence as a world-class institution.

The Administrator's Office and the Conservancy quickly became a seedbed for new management ideas and techniques. Private funds were used to initiate new projects and programs, some of which were later picked up by the city. For instance, private funds that paid for the design of the Dairy and Belvedere restorations stimulated capital construction paid for with city funds. Then, following restoration, these facilities were operated by license agreement with the department as part of the Conservancy's program of visitor services, which includes children's education, concerts, exhibitions, lectures, walking tours and publications. Horticulture was revived with private contributions, as was regular tree pruning by outside arborists. In 1980, the Conservancy paid for a group of interns—recent graduates of horticultural degree-granting programs—and some of these and subsequent new horticultural personnel were later transferred to the city payroll and promoted within the existing civil service structure of the department. Preservation of rustic structures was begun in 1980, and a graffiti-removal crew and a masonry crew were added in 1982. As these pilot projects also proved successful, they too were incorporated into the regular operations of the Parks Department, and techniques and services began to be replicated elsewhere within the parks system.

The new programs, combined with the capital construction projects, have begun to make an apparent difference. Central Park looks better and feels cleaner and safer than it has in many years. Administratively, however, there is still room for improvement. Jurisdiction over various aspects of the Park's operations is still somewhat fragmented. Recreation permits are controlled by the Recreation Division, Park concessions by the Concessions Division and security by the Manhattan-based unit of the Park Enforcement Patrol and the Central Park Precinct of the Police Department. Other city agencies also have jurisdiction over elements of Park management: the Department of Gas and Electricity (lights), the Department of Environmental Protection (Reservoir, including the running track), and the departments of Traffic (road signs), Highways and Transportation (road repair) and Sanitation (roadway cleaning and snow removal). The Administrator has been generally successful in obtaining interagency cooperation on such projects as the installation of new luminaries for the Park's 1,500 lampposts and the removal of graffiti-laden traffic signs. But good management requires more than inspired advocacy. Central Park's operations need to be made still more efficient and better organized if sound management is to endure.

Central Park's Management Today

Role of the Parks Commissioner in Relation to Central Park

Because Central Park is the most visible and heavily used park in the system, and because it is the location of the Parks Department's headquarters, the Parks Commissioner is necessarily involved in many decisions regarding Central Park's day-to-day management. The Commissioner's role is essentially a policy role. He has final authority over rules and regulations governing Park use and enters into legal contracts with concessionaires, contractors, entertainers and service organizations such as the Conservancy and others performing operations in the Park. He has final approval over the budget, acts as its chief advocate before the City Council and Board of Estimate and makes final decisions regarding staffing. Finally, he is the chief protector and defender of the Park from encroachment and misuse.

Responsibilities of the Central Park Administrator

The Central Park Administrator is the chief executive officer of the Park reporting to the Parks Commissioner and the trustees of the Central Park Conservancy for all policy, planning and budgetary matters and to the Deputy Commissioner for Operations of the Parks Department for all matters involving Park operations. The Administrator supervises and makes decisions regarding restoration planning and construction, the allocation of maintenance resources, the style, content and level of visitor services including Park security, sports, events programming and food concessions.

Supporting these operations are two budgets, that of the City of New York and that of the Central Park Conservancy. It is the Administrator's job to see that the private funds raised by the Conservancy are spent wisely and well and are not applied to items that should be funded by the city. It is likewise the Administrator's responsibility to ensure that city funding in Central Park is maintained at an amount proportionate to its present share of the Parks Department budget. Finally, it is the Administrator's task to use these two budgets in a complementary fashion to run the Park.

Responsibilities of the Deputy Central Park Administrator

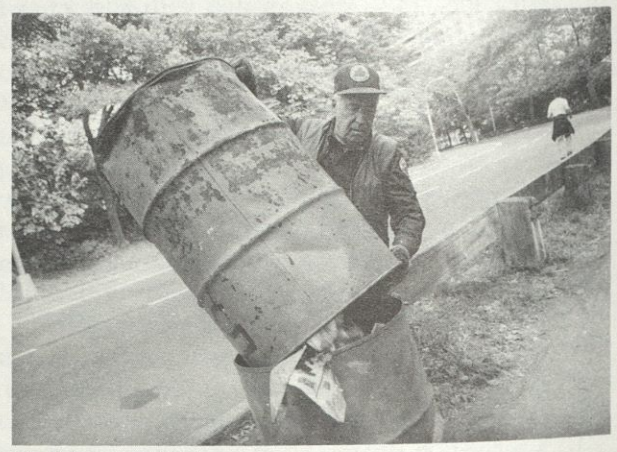
The Deputy Central Park Administrator is the chief of operations in the Park and reports to the Central Park Administrator. The Deputy Administrator's primary role is that of general maintenance manager. As such, he is responsible for the cleaning and repairing of the Park's structures and furniture, the care of the Park's lawns, trees and other vegetation, and the removal of tons of daily litter. With the Administrator, he oversees the hiring and allocation of the work force necessary to perform these tasks as well as the purchase and delivery of vehicles, equipment and supplies. He is responsible for the administrative recordkeeping and management analysis that tracks Park operations and provides data for budget-making, work planning and other decisions. Also with the Administrator, he coordinates the delivery of services to Central Park provided by other city agencies.

Responsibilities of the Executive Director of the Central Park Conservancy

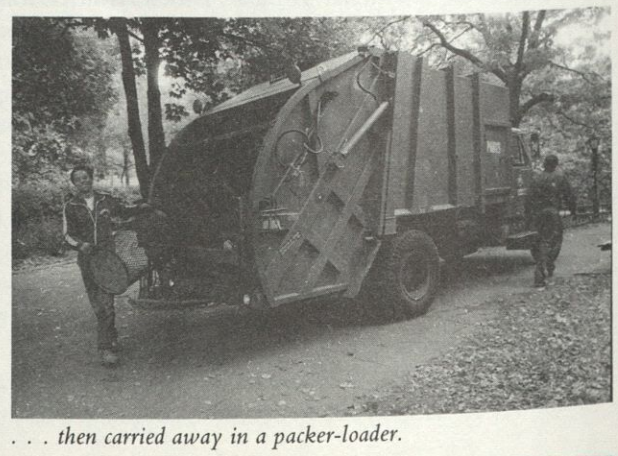
The Central Park Conservancy performs its operations in the Park through the office of the Central Park Administrator, who must, on behalf of the Parks Department, approve all programs and expenditures. The Executive Director of the Central Park Conservancy, therefore, reports to the Administrator as well as to the board. She manages

Trash is swept up on hard surfaces . . .

. . . stabbed on soft surfaces.



Trash is consolidated . . .



. . . then carried away in a packer-loader.

"Since 1977, the basic maintenance work force has declined by 19 percent, causing the virtual abandonment of important routine maintenance jobs like catch-basin cleaning..."

fund-raising operations, prepares the Conservancy's portion of the Central Park budget, develops new projects for funding and oversees the programs and facilities operated by the Conservancy in the Park.

Responsibilities of the Assistant Administrator for Construction and Preservation
The Assistant Administrator for Construction and Preservation oversees the day-to-day progress of both public and private, in-house and outside-contracted construction projects in Central Park. He reports directly to the Central Park Administrator but coordinates his operations closely with the Deputy Central Park Administrator. He is responsible for reviewing project budgets, handling the bidding process if work is to be done by outside contractors, monitoring construction schedules and handling problems that might cause delays and cost overruns. He also supervises the day-to-day operations of the crews engaged in graffiti removal, stone and bronze conservation and specialized carpentry.

Responsibilities of the Director of Central Park Horticulture
The Director of Central Park Horticulture establishes policies, programs and procedures for all horticultural operations in Central Park. He participates in the landscape design process, sets priorities, supervises the preparation of work schedules for the horticultural crews, monitors performance in the field and tracks productivity. He also plans all horticultural work performed by outside contractors, formulates detailed specifications for such work and supervises its execution. He prepares the horticultural program budget for Central Park, organizes staff training and communicates with other professionals in his field and with the general public.

Central Park Operations

Before setting goals or prescribing management recommendations, it will be useful to study in somewhat greater detail the three main areas of Central Park operations: (1) Maintenance, (2) Visitor Services, and (3) Restoration. We will also look at the support services that underpin Park operations.

Maintenance

The maintenance of Central Park falls into three basic categories: (1) *Cleaning and repair.* This includes the monitoring of general Park conditions, removing of the approximately 330,000 cubic feet of compacted trash each year, and cleaning, painting and making minor repairs to buildings, ballfields, playgrounds, benches, comfort stations, fences, fountains, pipes, paths and so forth; (2) *Preservation and conservation.* The range of work in this category includes small-scale restoration and preventative maintenance of such artistic and historic components of the Park landscape as statues, bridges, arches, stairways, walls, boat landings, arbors and rustic shelters; (3) *Groundskeeping.* This category includes planting, pruning, mowing, mulching, fertilizing and watering the Park's lawns, flowers, shrubs, ground cover and trees.

Since 1977, the basic maintenance work force has declined by 19 percent, from 111 to 90 employees, causing the virtual abandonment of important routine maintenance jobs like catch-basin cleaning. At the same time, the reestablishment of sound preservation and horticultural practices represents a very positive gain.

Keeping the Park Clean
As mentioned above, since the late 1920s, Central Park's 843 acres have been divided into maintenance districts, or sections. Each section has a foreman and crew who operate out of small buildings that usually also serve some public function as well. In addition, there is an operations headquarters—the 79th Street Yard—from which parkwide crews are deployed by the principal Park Supervisor and where Park vehicles are stored and serviced.

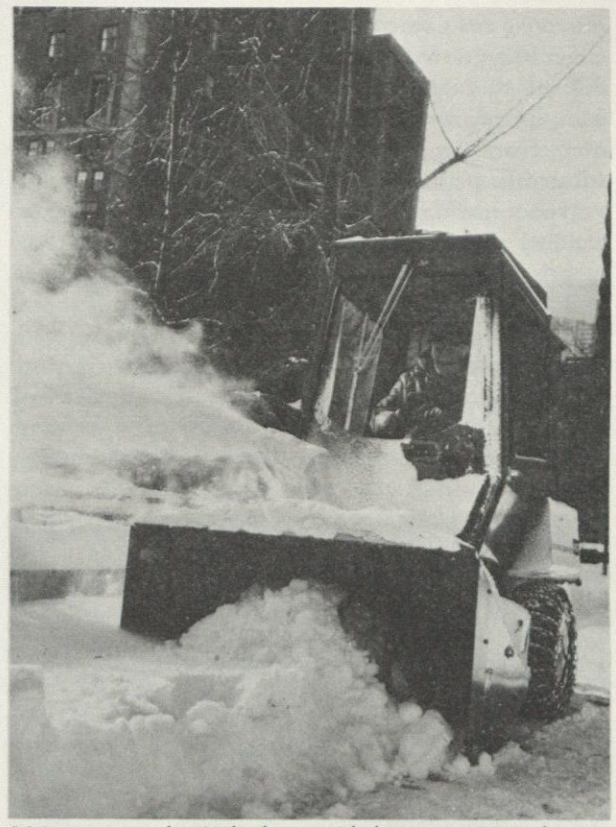
The Sections. Central Park is divided into seven maintenance sections. The job of the section crews is to make routine sweeps beginning on the Park's perimeter sidewalks, then moving to the Park drives and finally to the main pedestrian walkways. Afterward, they clean up the Park's 25 playgrounds, 26 playing fields, 24 bathrooms and various sitting areas and lawns.

During the past decade, the system in which these relatively independent crews would carry out a variety of cleanup operations and minor repairs broke down because of understaffing and lack of equipment. Since the time period analyzed by Savas, 1972–73, the number of workers assigned to section crews has declined by 26 percent. Section foremen today are further hampered by a shortage of vehicles in which to supervise their diminished crews. Catch-basin cleaning, cleaning of the Park's water bodies and other routine cleaning and repair jobs are no longer performed at all by the section crews. Some areas, particularly the less visible woodlands like the Ramble and the North End, may not be swept for several days or even weeks. This is not surprising considering the size of the work force, the lack of mechanization and the magnitude of the task. Special events further hamper efforts at routine maintenance because workers are redeployed from their normal jobs to perform such tasks as setting up and taking down bleachers and barricades and cleaning up afterward.

Section workers report such things as fresh graffiti and broken tree limbs, benches, lights and playground equipment to section foremen, who then write up work orders for handling by the Manhattan Borough Shop or the department-wide shop located on Randall's Island. Because these centralized operations are also understaffed, the present response rate to such work orders is only 20 percent.

The Yard. Supporting and supplementing the work in each section of the Park is the 79th Street Maintenance Yard. Yard crews paint benches and perform some minor repairs, but they function chiefly as a transport service, collecting garbage and taking it to one of three Sanitation Department dumps, ferrying workers and equipment to various job sites in the Park and trucking barricades and men to set up for events. Over half of the man-hours of the workers assigned to the Yard are spent on special-event details. The bulk of the remainder is spent on garbage collection, driving two packer-loaders along the Park's major pathways, picking up the contents of 18 dumpsters previously filled by section workers and making round trips to the dump. (The trip to and from the Fountain Avenue dump in Brooklyn takes four hours. The dump at East 91st Street, which is used to barge garbage to Fountain Avenue, takes only 30 minutes, but it is only open to Parks Department trucks on Sundays.)

Because of the busy schedule of events and the generally heavy year-round use of the Park, the same maintenance routines that can no longer be carried out by the section crews—catch-basin cleaning, water-body cleaning and Bridle Trail repair—are only sporadically attempted by Yard crews. The problems caused by this neglect are severe.



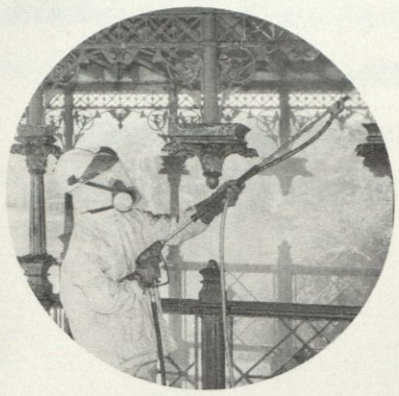
Maintenance workers' jobs change with the seasons. Men who serve as groundskeepers in spring remove snow in winter.

Drainage. The chapter of this report devoted to topography and drainage includes a discussion of the many "lakes" of standing water that are left in the Park after every rainfall. Controlling soil erosion through replanting of slopes will help remedy this situation to some degree, but routine catch-basin cleaning and periodic routing-out of pipes is also essential for proper siphoning off of water from the drives, paths and general landscape. Further postponing of this important maintenance task can only result in an increasing load of capital repairs in the future as old drainage lines collapse and are invaded by tree roots.

Water-body management. The Lake, the Meer, the Pond, Belvedere Lake and the Pool are all artificially constructed water bodies with problems stemming from deferred maintenance. To remain healthy, each should be regularly flushed out with clean city water and treated monthly in the summer with an algacide to discourage the growth of algae and other water plants. The water bodies may also require occasional dredging to prevent stagnant corners from developing. In recent years, this work has been done in only token amounts.

The Loch and the Gill are two artificial streams that also require regular maintenance to keep them functioning properly. The Gill has been the subject of an intensive repair effort over the last three years by the Central Park Conservancy.

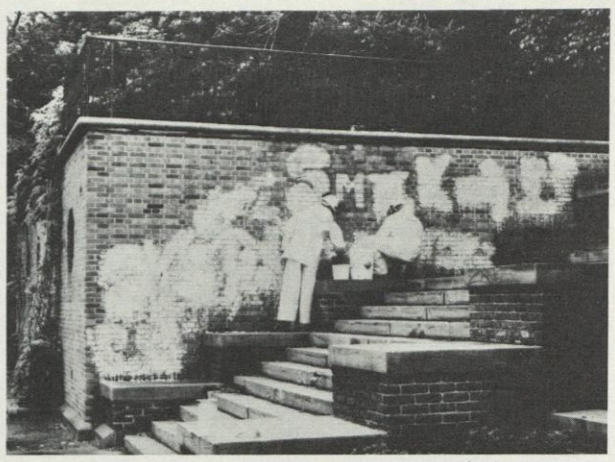
Bridle Trail. There are 4.5 miles of 30-foot-wide Bridle Trail in Central Park, most of it in severely deteriorated condition for lack of regular maintenance. There are three basic elements to the trail: the cinder surface, wooden ditchboards that help to contain the cinders, and the subsurface drainage system. A major capital project, or series of capital projects, is now required to remedy its condition. Following such work, routine maintenance must be reestablished if future deterioration is to be prevented and horseback riding is to remain a form of Park recreation.



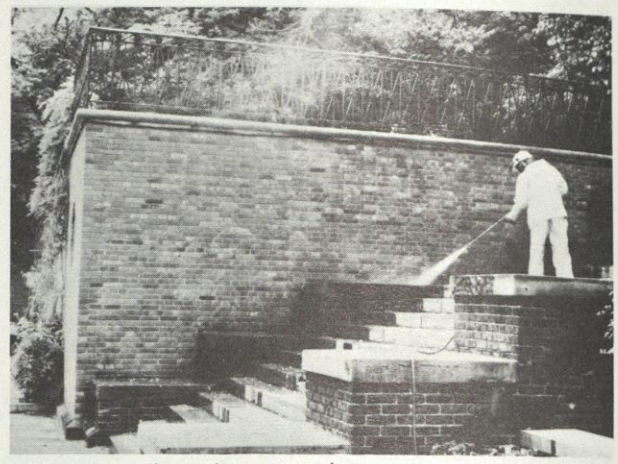
"Central Park has become a laboratory and training ground for a new kind of versatile multidisciplinary worker: the Park Craftsperson."

Preserving and Conserving the Park

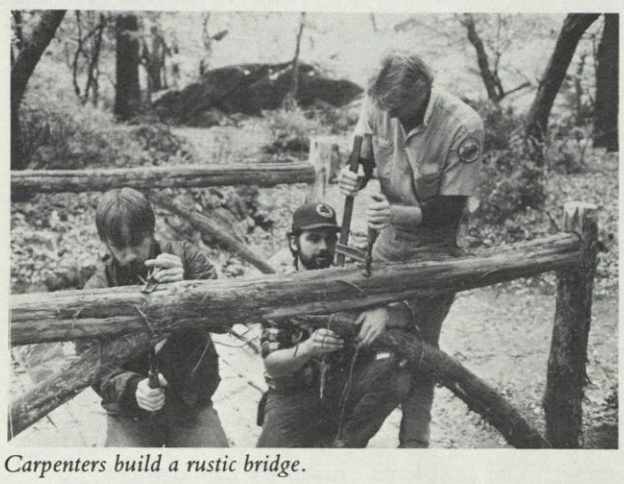
Given the present staffing levels, which make it difficult to get routine maintenance and repairs accomplished, it is practically impossible for the Maintenance and Operations Division as now constituted to perform the highly technical work involved in caring for the many delicate ornamental features of the Park. Moreover, the Parks Department's shop forces are organized into traditional building trades and do not have training in the techniques of historic preservation. The citywide Monuments Division is so understaffed that it can devote only a very small amount of time to Central Park. It was clear in 1980, when the department and the Central Park Conservancy embarked upon the program to rebuild the Park and restore many of its historic landscape features, that specialized crews of craftsmen would be needed to rebuild rustic arbors, shelters and bridges; repair boat landings, pergolas, walls and fences; dredge streams; reconstruct stream and lake embankments; remove graffiti and conserve bronze statuary and plaques.



Graffiti removal (shown here at Conservatory Garden)...



...is now a routine maintenance task.



Carpenters build a rustic bridge.

Since 1980, three crews of mostly young craftspersons have been fielded under Conservancy sponsorship and subsequently funded by the Parks Department. One crew is engaged primarily in rustic carpentry, working with unmilled timbers; a second performs masonry jobs including the implanting of boulders in the landscape for erosion and embankment control; and a third has removed 50,000 square feet of graffiti and is also engaged in learning various techniques of bronze conservation. This work force, which currently numbers 13 employees, has become critical to the realization of the restoration plan for Central Park, and, indeed, it is a model for Park preservation projects elsewhere. Central Park has become a laboratory and training ground for a new kind of versatile multidisciplinary worker: the Park Craftsperson.

Stonemasons reset part of the perimeter wall.

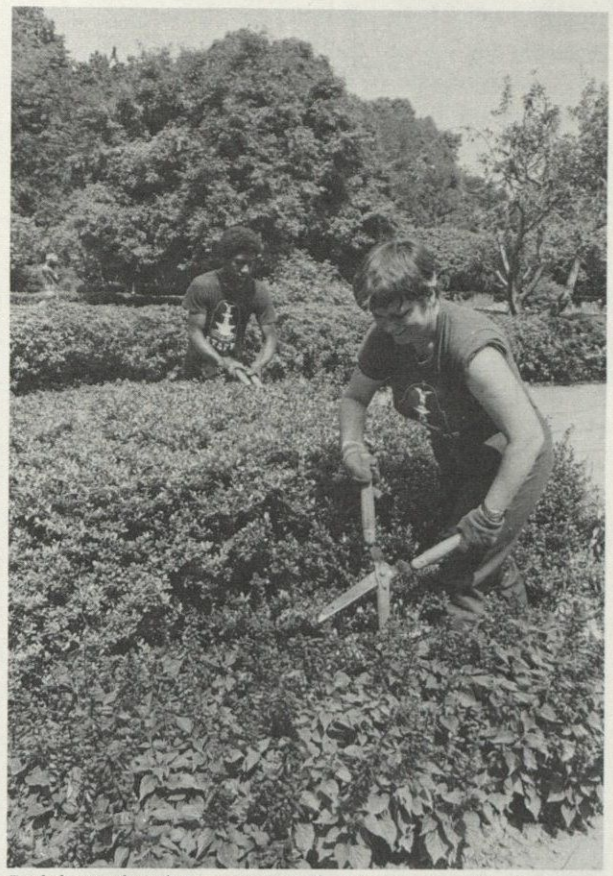
Grillwork on the Vanderbilt Gate is restored by a member of the conservation crew.

"...the Park is well on its way to recovering from the 'anything goes' mentality of a decade ago, but it needs all the management skill it can muster to deal with efforts to exploit it commercially, recreationally, politically and even criminally."

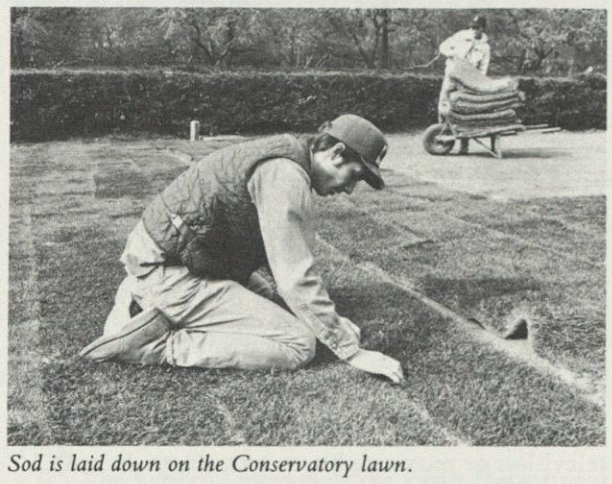
Groundskeeping

As groundskeeping forces have been reintroduced since 1980, the long-neglected trees and turf of Central Park have undergone a remarkable transformation. Some of the accomplishments in this area, which have been detailed in the chapter on vegetation, include: a comprehensive inventory of the Park's 24,000 trees over six inches in caliper; pruning 6,000 trees and fertilizing 350; planting 275 major new trees and 25,000 new shrubs and understory trees; resodding 21 acres of lawn and intensive turf management of 38 acres; the establishment of a soil laboratory that can handle 500 samples a year; and the hiring of specialists with various types of horticultural expertise to consult on Park problems.

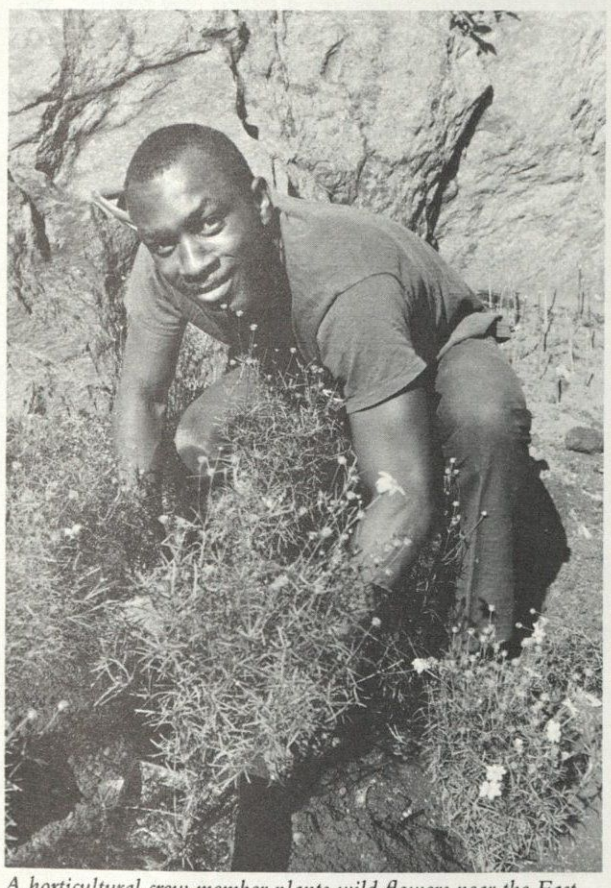
Four programs are now in operation within the field of horticultural maintenance: an arboriculture program, an understory vegetation program, a turf-care program and a soil-management program. Like the preservation and conservation crews, the horticulture crews working in these four programs represent the Parks Department's new blood. They are young men and women, currently 19 in number, some of whom hold academic degrees in horticulture or have attended horticultural training programs such as the one offered by the New York Botanical Garden. The Central Park Horticulturalist coordinates and supervises the work in all four interdisciplinary programs and, in addition, cooperates with the Director of Preservation and Conservation on a variety of in-house restoration projects.



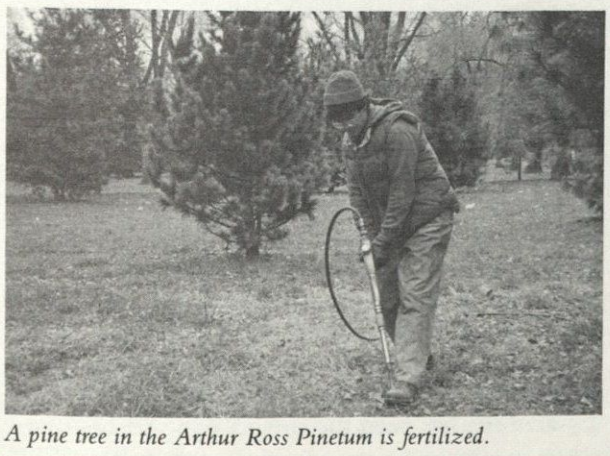
Park horticulturalists pruning in the Conservatory Garden.



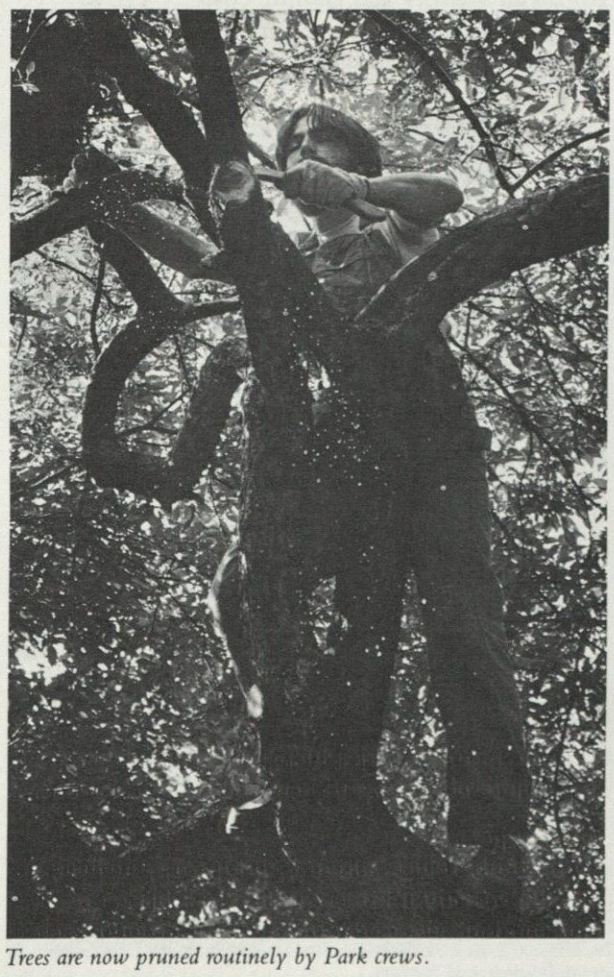
Sod is laid down on the Conservatory lawn.



A horticultural crew member plants wild flowers near the East Park Drive.



A pine tree in the Arthur Ross Pinetum is fertilized.



Trees are now pruned routinely by Park crews.

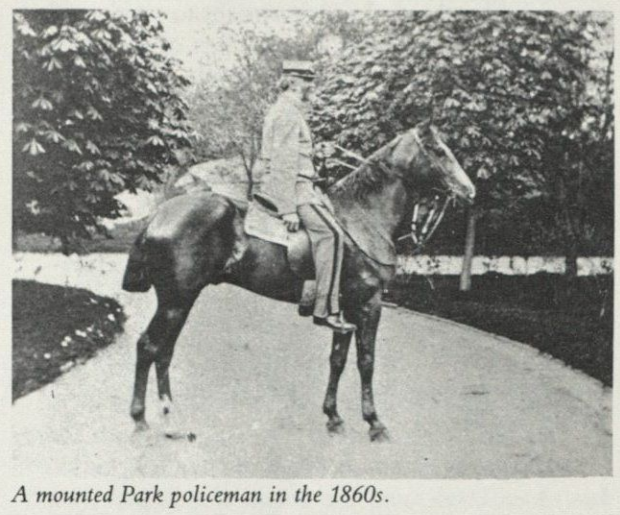
Visitor Services

We have seen how the Park's role has changed over time and how its perceived mission has been modified by the attitudes and tastes of passing generations. Much has remained constant regarding the maintenance needs of the basic resource itself, and the safety of its users has been a major concern from the beginning. But the array of events and activities sponsored by the Parks Department and the amount and style of food, education, entertainment and sports offered have changed dramatically over the years. Today, the Park is well on its way to recovering from the "free-for-all, anything goes" mentality of a decade ago, but it needs all the administrative expertise and management skill it can muster to deal with the practically limitless appetite to exploit it commercially, recreationally, politically and even criminally.

In this area of Park administration, which we call visitor services, several promising developments have occurred over the past four years. Like the innovations in Park maintenance, these also need strengthening and better administrative coordination. The issues of who makes money in Central Park and how much revenue comes back to the Park for improved maintenance also need to be examined.

Security

The Park was originally patrolled by its own security force of "Park keepers," who reported to Olmsted. Replaced by city policemen after 1897, the approximately 75 full-time officers and 40 seasonal officers assigned to Central Park today oper-



A mounted Park policeman in the 1860s.

Mounted Park rangers, 1984.

"Events drawing 500 people or more are systematically managed. At weekly operations meetings, representatives from the Parks and Police departments plan the details of each event."

ate out of the Central Park precinct located on the 86th Street transverse road in a converted stable that is a landmark building in extremely dilapidated condition. The continued operation of this precinct is vital to the security of Central Park. Plans are currently under way to renovate the building, preserving its historical exterior and modernizing its interior. The feasibility of including a stable for mounted police and rangers within the compound is being examined.

Currently, Central Park is patrolled in much the same fashion as the surrounding precincts. Patrolmen with two-way radio cars tour the drives and major paths and respond to emergency calls relayed through the 911 system. While this computerized emergency dispatching method is effective elsewhere, it loses some of its efficacy in the Park because many of the Park's 49 emergency telephone call boxes do not function at any given period of time due to constant problems with the overhead phone lines that are looped through the trees. (The city administration has never felt that the generally limited phone needs within Central Park justified the considerable capital expense of putting lines underground throughout its 843 acres of rocky terrain.) In addition, it is difficult for victims and police who succeed in achieving phone contact to give and confirm directions to a crime site in the Park. The technology exists for radio call boxes, and implementation is being studied by the Parks Department and the Central Park Conservancy.

In the meantime, other strategies have been initiated to reestablish a security presence within Central Park. In 1980, a special services unit was organized by the Parks Department to work with the police in combating the problem of illegal vendors. Today, this and other Park rule-enforcement work is being carried out by the Park Enforcement Patrol, a unit of 17 rangers with special peace-officer status assigned to the borough of Manhattan. A radio-command post has been established for this unit at the North Meadow Center in Central Park. Alarms from Park buildings that have had emergency protection devices installed are being relayed to this center. The building also serves as headquarters for a mobile night-security unit composed of maintenance workers who patrol the Park in pickup trucks.

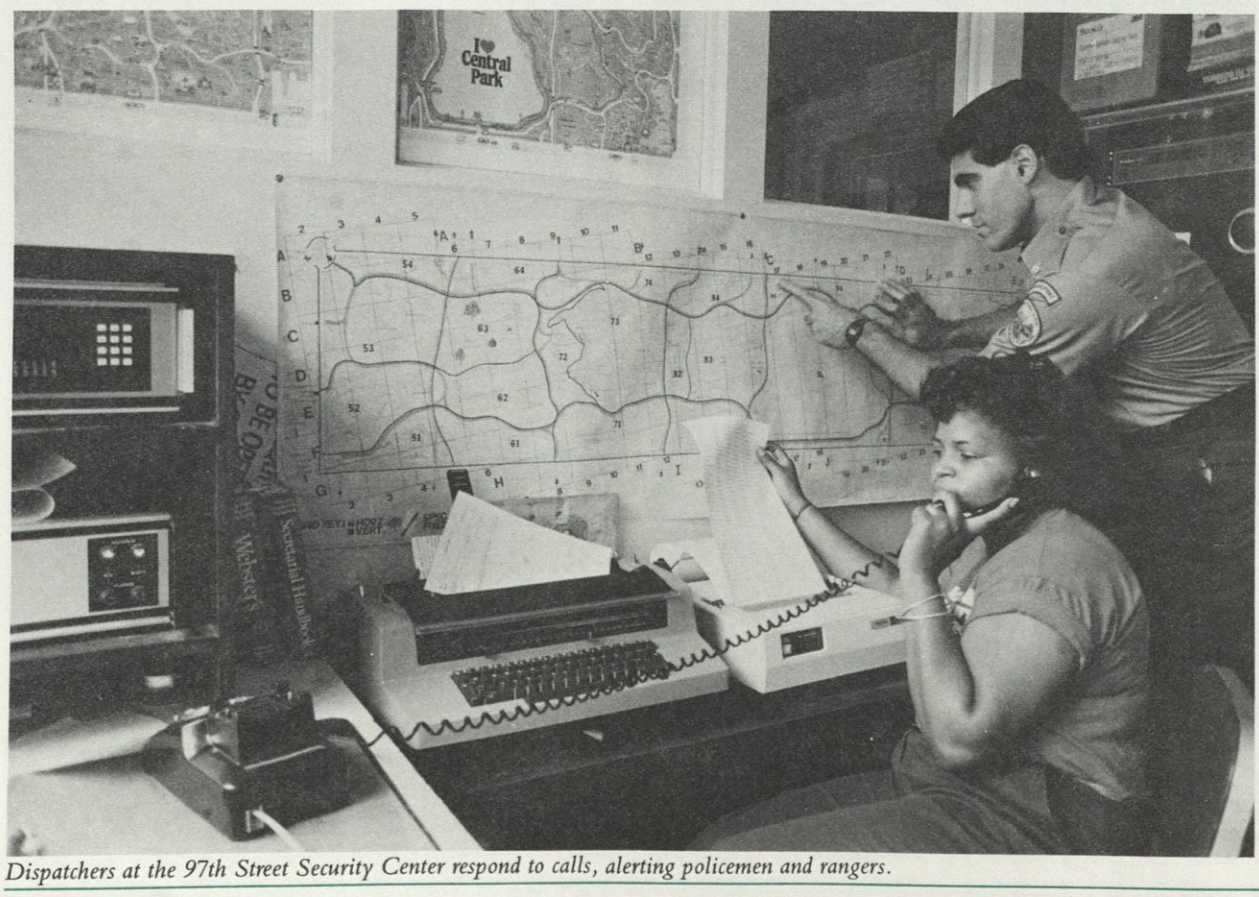
Events

From the beginning, Central Park offered its visitors entertainment. In the nineteenth century, band concerts were performed at the Concert Ground on the Mall, and later, in the 1930s and 1940s, dancing was popular there. The Sheep Meadow was New York's village green for a variety of festivals, maypole dancing and harvest celebrations, and in the 1960s it became the locale of large concerts. Although diminished in number today from a decade ago, when every imaginable kind of happening or "be-in" served to draw a crowd, there are still hundreds of events each year in Central Park. Mass events—drawing 500 people or more—are systematically managed. At weekly operations meetings,

A ranger gives a lesson at the Belvedere.

representatives from the Parks and Police departments plan the details of each event. While this promotes security and cuts down on abuse of the Park, there still remains the problem discussed earlier: the volume of Central Park events is such that regular maintenance must be left undone while Parks Department workers set up and clean up after them.

Lately, too, another consideration has arisen: the actual cost to the city of operating large-scale events that are ostensibly free but that actually make a profit for a sponsor through the sale of television or movie rights or recordings. In 1983, the city instituted a policy requiring sponsors to absorb all security and cleanup costs as well as make a contribution to the Parks Department for the privilege of holding such an event, if permission were to be given.



Dispatchers at the 97th Street Security Center respond to calls, alerting policemen and rangers.

Entertainment and Education

Central Park offers regular programmed entertainment at a variety of locations under the auspices of the following sponsors: Central Park Conservancy (Dairy Visitor Center and Belvedere Learning Center); the Department of Parks and Recreation (Swedish Cottage Marionette Theater and Heckscher Puppet Theater); and the New York Shakespeare Festival (Delacorte Theater). There is regular storytelling at the Hans Christian Andersen statue in the summer, and, except when the weather is inclement, young riders can whirl around on the concessionaire-operated Carousel. The Carousel, the storytelling and the marionettes are part of vintage Central Park. Shakespeare, which has been enjoyed in the Delacorte Theater since 1959, is too.

The new education and entertainment programs in the Park are the result of fund-raising efforts by the Central Park Conservancy, and these take place at the Dairy and Belvedere Castle. The Dairy offers photography and art exhibits on Park-related subjects, lectures and an information and sales desk where books, maps and a variety of other items can be found. Programs at the castle are aimed at families on the weekend and schoolchildren during the week, and they consist of treasure hunts, games, crafts projects, music and magic shows.

The Conservancy is responsible for the large framed maps at all major Park entrances and for posting on the reverse side of these Park maps a seasonal calendar of events. It also publishes a quarterly newsletter, the Central Park *Good Times*. Within the Park, new signs tell about restoration projects under way and encourage respect for new plantings.

The Urban Park Rangers are also helping to promote good behavior and obedience to Park rules, and they are able to administer first aid and teach lessons in environmental science. Some serve as auxiliary members of the Belvedere and Dairy staffs. (Even though both report through the same chain of command within the department, Urban Rangers should not be confused with the Park Enforcement Patrol rangers, whose primary duty is security.)

Sports and Recreation

Operating various recreation facilities within Central Park, such as the tennis courts and Lasker Rink and Pool, imposes a considerable maintenance burden on an already stretched maintenance work force, and there is an additional cost to the Park in terms of repairs and other kinds of work that get deferred.

A strong case could be made for licensing the tennis courts (instead of just the pro shop) to a concessionaire, since the revenues from that facility should cover maintenance costs and still return a profit. But the incentive for concessioning the operation of this and other Park recreation facilities has remained fairly weak, since at present all revenues from Parks Department facilities go to the general fund of the city and do not flow directly into the operating budget of the agency.

One of the greatest challenges Central Park's managers face is how to satisfy the demand for sports while preserving the Park's lawns for those who seek a quiet retreat from the busy city and a place to sit on the grass, picnic or take a nap in the sun. Reducing soil compaction and maintaining athletic turf is more difficult here than almost anywhere else imaginable and requires intense horticultural care, daily supervision and public cooperation. But the Heckscher Ballfields prove that this challenge can be met. Resodded three years ago, the 4.5-acre site has been the subject of a turf-manage-

"By monitoring and checking deterioration, the preservation crew extends the life of capital improvements, decreases the cost of deferred maintenance and reduces vandalism."

Thirty percent of the Park's visitors eat some kind of food during their stay in the Park.

ment pilot program in which football and soccer have been prohibited, baseball and softball permits are canceled on rainy days when the ground is muddy and subject to compaction, and playing is not allowed before noon on weekdays or after September 15 in order for a fall overseeding to establish itself while the weather is still warm enough for the grass to grow. A telephone message tape advises permit holders whether or not Heckscher is in play, and rangers monitor for infractions if the fields are closed. To apply this management system to the Great Lawn and the North Meadow ballfields when these are also restored will require the commitment of additional rangers to Central Park.

Food

Eating is an activity that engages approximately 30 percent of the Park's visitors. The Park is the place to enjoy a hot dog, picnic, soft drink or ice cream cone. Food and food service have been associated with Central Park since its inception. Milk was dispensed from the Dairy, mineral water from the Mineral Springs refreshment building, and the Casino played the role of today's Tavern on the Green, serving elegant meals in a festive atmosphere. Then as now, outdoor vendors sold snacks from carts, some illegally without a permit.

Licensing of vendors and the setting of standards for their attire and products was yet one more way in which Robert Moses set his stamp on Central Park. Today, there are approximately 40 licensed mobile-cart locations in Central Park, mostly clustered around major entrances and prominent crosswalks like the Mall. In 1984, following the expiration of the single-vendor contract with the Yum-Yum Hot Dog Company, all of these locations were advertised for bid on an individual basis; as a result, the Park now offers more varied food than it has in several years. Graphic standards and a dress code for these new vendors has been developed by the Central Park Conservancy working in close cooperation with the Concessions Division of the Parks Department.

With the exception of Tavern on the Green, which is a major restaurant in its own right, food service in Central Park exists for the most part in conjunction with recreation facilities. Fast food is sold at Lasker Rink, the Carousel, the Loeb Boathouse, Mineral Springs and the Model Boat Basin. The Loeb Boathouse, which is currently undergoing restoration, and the 110th Street Boathouse, when rebuilt, will have the space and market potential to support sit-down restaurants as well as fast food.

There has been much heated debate over the issue of what is the optimum size for Park food facilities. This debate is as old as the Park itself. Olmsted argued that the purpose of such services as food and rest rooms was to enable visitors to prolong their experience of the Park. He warned against restaurants and other attractions that were in and of themselves *destinations* rather than simply *conveniences*.

Bathroom Maintenance

Some of the Park's 24 rest rooms exist adjacent to, or within, concessions. In some cases, the maintenance of these facilities has been assumed voluntarily by the Park's concessionaires. This represents an important means for preserving a Park amenity that, as we have seen earlier, can receive only scant attention from the section maintenance crews under the present circumstances.

Restoring Central Park

The complete restoration of Central Park is a complicated long-term process requiring as many as 200 capital projects. In the past, publicly funded projects have been administered by the Design and Construction Division, and Conservancy-funded projects have been handled by the Central Park Administrator. All projects are submitted for a series of reviews by the Parks Department, Landmarks Commission, Art Commission and the Manhattan Borough Board. Projects of unusual community interest may also be presented to individual community planning boards for review and comment. This review process takes from one to three months, or longer in the case of certain projects of an extraordinary nature. It is the legitimate means whereby the democratic process is brought to bear on the city's most democratic public space, Central Park.

The Design Division of the Parks Department is in charge of supervising projects worth approximately $80 million a year. With such a broad focus, it is difficult for the division to provide, on a continuing basis, resources solely for the restoration of Central Park. Moreover, the public bidding process mandated by the city precludes other than low bidder contract awards, and this allows contractors who are sometimes incompetent or incapable of especially sensitive kinds of reconstruction and landscape restoration work to get jobs in Central Park.

Outside construction contracts are not necessarily the most efficient and economical means of accomplishing the restoration program outlined in this plan. Many areas requiring restoration remain neglected because they are neither large enough to warrant becoming independent capital projects nor small enough to be part of routine maintenance repairs. As we have discussed above, the reconstruction of paths, stairways, bridges, walls, benches, waterfalls, water-body embankments, arbors, pergolas, boat landings and rustic shelters is being accomplished by the new in-house preservation crew. Their work is integrated with landscape restoration work performed by the horticulture crew. These crews form an interdisciplinary and multiskilled work force. Individuals working on these crews have been trained to do more than one job. Supervisors thus have more flexibility and ease of scheduling than do contractors who must organize the work of various independent building trades. Most important, unlike a contractor, the preservation crew does not go away once a particular project is completed. Maintenance plans are now an integral part of all Park restoration projects. By monitoring and checking deterioration, the preservation crew extends the life of capital improvements, decreases the cost of deferred maintenance and reduces vandalism.

In addition, as a by-product of this management and restoration plan, Central Park now has a group of landscape designers thoroughly knowledgeable about the whole Park and capable of developing design contracts for individual projects within it. Registered landscape architects funded by the Conservancy and currently on the Administrator's staff can both prepare design documents and review the plans of consultants. A staff architect/engineer is needed to make this design unit completely self-sufficient. Also needed is a community affairs staff member to coordinate the public design review process and maintain an ongoing dialogue with constituent groups. A full-time construction manager to oversee major capital projects involving outside contractors is necessary in order to provide supervision and keep restoration work moving on schedule.

Support Services

Underpinning Central Park operations are support services: administration and maintenance buildings, vehicles, a purchase system for materials and supplies, and management systems to help budget, supervise, monitor and rate the delivery of various Park operations. Central Park's support services are at present quite deficient and in need of improvement.

Building Space

The administration of Central Park is hampered by the fact that it is housed in widely separated structures, causing loss of staff communication and other inefficiencies. The Administrator's offices presently consist of three rooms in the Arsenal and temporary occupancy by the design staff of the former Birdhouse in the Zoo. The Central Park Conservancy, which should be headquartered in rent-free space within the Park, must occupy commercial space on West 57th Street.

Within the field, the situation is no better. Since the Park is an official landmark, existing buildings cannot be enlarged or altered significantly, and as new operations have developed (such as the preservation and horticulture crews and Park rangers), supervisors' offices and equipment storage have been shoehorned into whatever available space could be found. A headquarters for the Park Enforcement Patrol, Urban Park Rangers and night-security workers was provided by the conversion of a little-used portion of the North Meadow recreation building. One boroughwide operation, the Manhattan Forestry Division, was relocated outside of Central Park, thereby freeing a portion of the 79th Street Yard and providing space for the horticulture and preservation crews. At some time in the future, another boroughwide operation, the Manhattan Shops, may relocate from its quarters on the 86th Street transverse, providing another pool of badly needed space from which Central Park crews could operate.

Throughout the Park there are various structures that serve the combined needs of the public and the section crews. Most are shabby, deteriorated and in need of structural repairs. What is needed most is a comprehensive plan for housing all of the Park's administrative and maintenance functions rather than the current piecemeal approach. Such a plan should assess the feasibility of creating a compactly scaled administrative building

"What is needed most is a coherent plan for both the Park's administrative and maintenance functions rather than the current piecemeal approach."

on the foundation of Mount St. Vincent, the convent that stood at 104th Street and the East Drive and housed the Park's administration in its early years. It should also analyze the space, physical condition and current uses of the 79th Street Yard and 86th Street shops to determine whether these buildings and their immediate environs can be made more orderly and efficient for running Park operations. Finally, it should look for opportunities to upgrade section operations through the renovation of structures in the Park. The Heckscher Playground building, the Ramble building and the western wing of the North Meadow building are candidates for immediate consideration.

Vehicles and Equipment

Modern park management is necessarily highly mechanized. Packer-loaders for garbage collection, a vac-truck for leaf removal, front-end loaders, tractors, rack trucks, pickups—all are important for transporting supervisors and workers to job sites as well as for doing actual work that would be too time-consuming or difficult to perform manually. This fleet is currently inadequate and insufficiently maintained because of lack of funding, an allocation system unresponsive to local, Park-based needs and lack of a proper repair operation within the Park.

The Central Park Conservancy has provided some stopgap measures to improve this situation. Private funds obtained by the Conservancy have purchased badly needed vehicles and other motorized equipment and are currently being used to fund materials, parts and the salary of a mechanic. But vehicular replacement and repair is primarily a Parks Department responsibility. The budget on pages 92-93 reflects the capital costs of modernizing the aged fleet; its approval and the continued timely replacement and repair of all motorized equipment are important priorities.

Purchasing Materials and Supplies

Items purchased for Central Park fall into three categories: (1) standard supplies such as light bulbs and toilet paper, which are purchased by the Department of General Services for all city agencies and requisitioned by the Parks Department; (2) Park-specific materials and supplies, such as ballfield clay and swimming-pool chemicals, which are purchased for the Parks Department by the Department of General Services through competitive bidding; and (3) non-standard items, such as special tools and parts, which must be individually researched for quality as well as price.

While occasional bottlenecks and inefficiencies have inhibited the delivery of the first two types of items, Central Park has suffered chiefly for want of the third. Section supervisors have not been made parties to the budget-making process in the past; without guidelines or budget limits, they have had to substitute barter for planning, using materials they have been able to stockpile in trade for others they need. Planning for materials and supplies used by the horticulture and preservation crews is somewhat better, but there is an inclination not to plan far enough ahead to accommodate lengthy city purchasing procedures and therefore to rely instead on private funding through the Central Park Conservancy. This constitutes an inappropriate use of Conservancy funds, which are meant to supplement, not substitute for, city funds.

Management Information Systems

Central Park is currently remedying its deficiency in the kind of information systems that will enable its managers to budget and plan operations and measure productivity.

An integrated city-Conservancy expense budget containing the information found on pages 92-93 is being computerized. This exercise in Park-based budgeting is an important step toward achieving more precise and specific budgeting for major parks elsewhere within the parks system. It is also an essential tool for defining clearly the respective obligations of the city and the Conservancy toward Central Park. A system designed to track expenditures against this budget is important in order to monitor performance as well as for accounting purposes.

A Park mechanic keeps the Park's machinery in working order, increasing the efficiency of maintenance and operations.

At the same time, a capital budget is also being prepared for the Central Park restoration projects outlined in this plan. A system to track construction progress exists within the Parks Department but applies only to publicly funded projects. An integrated project-management system needs to be designed for both publicly and privately funded projects in Central Park.

Work measurement information currently collected in Central Park is chiefly quantitative and used primarily in preparing the management reports that are submitted monthly to the Mayor's office. As the Park becomes better staffed and is able to move away from an essentially reactive, crisis-responsive work force to one that is more routinely programmed, managers can perceive and set standards more effectively—i.e., work units achievable in specified time intervals. Some such standards have already been established by the Director of Horticulture through the scheduling and monitoring of work performed by the horticulture crews. The continued development of ways to measure and evaluate horticultural and other types of jobs is important for the establishment of a worker-incentive program as well as for the budget planning and budget advocacy necessary to manage a restored Central Park.

Goals

To reestablish maintenance—including the important and long-neglected functions of groundskeeping and structural preservation—to a place of central importance within Central Park's management policy.

To explore new ways to generate income to support the restored Park's increased maintenance needs.

To reassert Central Park's leadership role and make it the most efficiently managed and beautifully maintained urban park in the country and an inspiration for other parks everywhere.

Maintenance Recommendations

- The trend toward decentralizing Central Park's management both from without and within should continue. Toward this end, the Park should support its own shop force consisting of one year-round and one seasonal plumber, one electrician, three carpenters, two masons and two mechanics.
- The operation of the sections should be improved by good field supervision, increased staffing, the timely provision of equipment and supplies, and the assignment of adequate vehicles. Foremen should be given responsibility to manage their individual section budgets for supplies and materials. There should be a handyman assigned to each section to perform routine repairs.
- Events should be reasonably self-supporting, with revenues derived from sponsors being used to hire *per diem* workers to set up and clean up instead of more highly paid regular employees, thus conserving the time of the latter for important routine maintenance chores. Greater reliance on seasonal Park workers will also help in this regard.
- A catch-basin cleaning crew should be established and furnished with the proper machinery and equipment to ensure that the Park's drainage system functions properly at all times.
- A water-body management program should become the responsibility of routine maintenance forces (regular cleaning), an expanded in-house restoration crew (dredging and embankment control) and the soil science lab (water-quality measurement).
- Regular maintenance responsibility for the Bridle Trail should be resumed when its restoration is completed.
- Efforts to protect Central Park's extraordinary tree heritage should be increased. Approximately 3,000 trees should be pruned and 600 fertilized annually, with special attention paid to the Park's elms, European beeches and historic specimen trees. New

"A permanent design staff of landscape architects and architect/engineers should continue to work on plans for the projects outlined herein."

conifers should be planted each year until the Park's evergreen tree population has been adequately replenished. Volunteer trees that are causing erosion problems or are interfering with the growth of specimen trees should be removed.

- Aboriculture and turf crews should be expanded to meet the maintenance needs of the restored Park.
- Volunteers should be encouraged to continue to perform, under supervision, such horticultural work as pruning, weeding, mulching and planting.

Visitor Services Recommendations

- There should be an Assistant Central Park Administrator for Visitor Services to oversee the operation of the Park's programs and facilities for education, entertainment, sports, recreation and food service; the issuance of permits; the organization of management for events; and the coordination of various types of Park security. When appointed, the person who holds this job should understand the delicate balance between Park protection and the provision of services to Park users, and be able to work out equitable arrangements with various user groups, represent the agency forcefully in public and achieve desired performance levels from concessionaires.

Security

- The Parks Department and Police Department cooperate well concerning the management of events in Central Park and, recently, have begun to work together more closely on routine day-to-day security matters including the renovation of the 86th Street Precinct. Since interagency cooperation is nowhere more important than in the sensitive area of security, a working committee composed of top-level administrators from both agencies should meet regularly in an effort to further the implementation of long-range security improvements in Central Park.

- A new radio call box system should be installed in order to facilitate prompt and accurate response to emergencies.

- A stable facility to house both mounted police and mounted rangers should be built as part of the renovation of the 86th Street Precinct, either within the current structure or adjacent to it.

Events

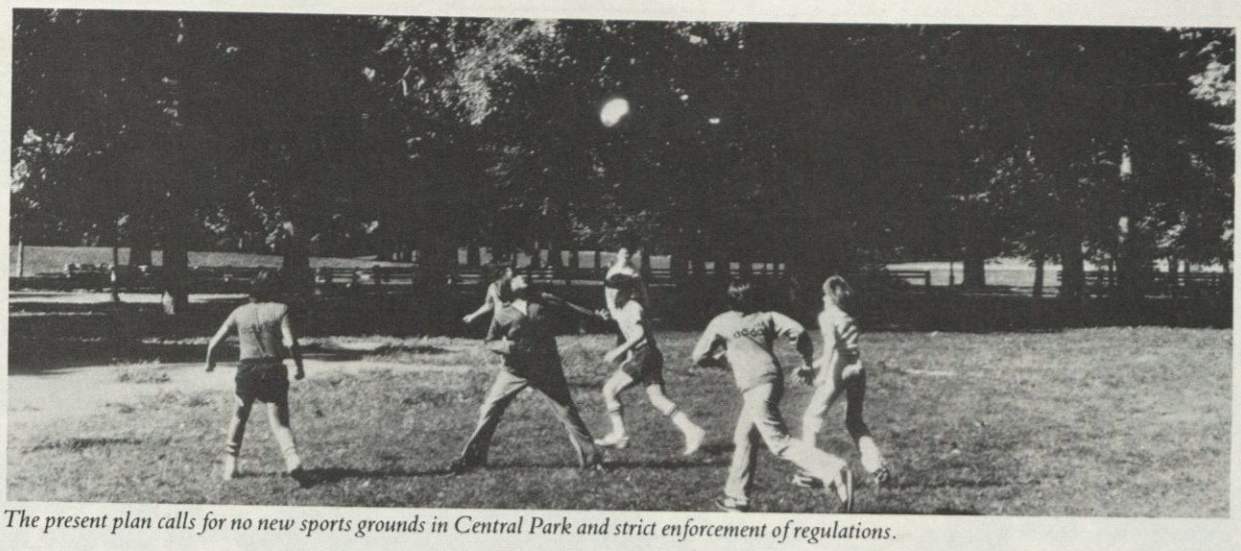
- The Parks Department should continue to reduce the number and size of Park events, particularly those that may damage its newly restored landscape. The Assistant Central Park Administrator for Visitor Services should carefully monitor all event permits and, where possible, relocate events that may be more appropriately sited outside the Park. A target of 5 percent reduction a year in permits issued for the next five years should be a goal. The Assistant Central Park Administrator for Visitor Services should set up a tracking system to monitor the actual monetary cost to the Park of various kinds of events.

Entertainment and Education

- The educational outreach of the Conservancy should be extended, and the Urban Park Rangers assigned to Central Park should be brought under the supervision and direction of the Assistant Central Park Administrator for Visitor Services.

Sports and Recreation

- The Assistant Central Park Administrator for Visitor Services should analyze current recreation fees and permit procedures and oversee the implementation of any management changes, including concession negotiations, deemed advisable by the Parks Department.



The present plan calls for no new sports grounds in Central Park and strict enforcement of regulations.

- The Heckscher Ballfields intensive turf-management program should be replicated on the Great Lawn and at the North Meadow when these locations are restored. The same rules governing the use of the Sheep Meadow should be applied to the lawns that are being restored for passive recreation.

Restoration Management Recommendations

- Central Park has become a laboratory and training ground for a new kind of versatile multidisciplinary worker: the Park Craftsperson. To accomplish the many small projects and maintain all the restored features in the Park of the future, this work force should be expanded and properly remunerated. Currently, there are no job titles with commensurate salaries for these new workers. Standard titles such as Park Service Worker and Park Superintendent do not properly recognize or value their skills or those of their supervisors. While it is important to give proper job recognition to these workers, it is equally important *not* to lose the concept of broadbanding. These workers' versatility and their ability to acquire more than one craft skill is critical to the success of restoration programs in Central Park and elsewhere.

- The in-house capability to design, build and maintain capital projects should be expanded. City capital funds should be used for this purpose.

- A permanent design staff of landscape architects and architect/engineers should continue to work on designs for the projects outlined in this plan. This team should prepare contract documents and review and approve those prepared by outside consultants.

- A construction supervisor working under the Assistant Administrator for Construction should be hired to manage the details of the construction process on a day-to-day basis, dealing with designers and contractors and ensuring that problems get solved speedily.

- A Central Park Director of Community Relations should be appointed to help publicize the restoration program and to act as a single voice representing the Administrator in dealing with various constituent groups, public agencies and organizations.

Support Services Recommendations

- A study of the organization of all space in Park buildings devoted to maintenance and operations should be undertaken and a plan developed for the reprogramming and renovation of this space to make it more amenable and efficient.

- A feasibility study should also be undertaken to determine the program and cost of a new administrative building on the site of Mount St. Vincent.

- The fleet of Park vehicles should be recapitalized and kept in good repair in the future by expanding the present mechanical repair operation. The Park should have an improved vehicle shop with a hydraulic lift and an annual expense budget for vehicle maintenance.

- Central Park should have its own individual budget for materials and supplies. Park managers, including section supervisors, should be given more responsibility for preparing various parts of this budget and monitoring expenses against it.

- Computerized management information systems to track personnel, budgets, tree care and other kinds of work performance should continue to be developed.

- Work performance standards should be developed and used to measure productivity.

Footnotes

[1] Central Park Maintenance Account, 1864, *Eighth Annual Report of the Board of Commissioners of the Central Park*, 1864, p. 58. Landscape Management subsumes expenses listed under "Irrigation, Plantations and Turf."

[2] Central Park Maintenance Account, 1873, *Third General Report of the Department of Public Parks for the period of Twenty Months from May 1, 1872 to December 31, 1873*. New York: William C. Bryant & Co., 1875, pp. 486-488.

[3] *Ibid.*, p. 49. Landscape Management subsumes expenses (see footnote 1), Security and Rule Enforcement subsumes Park and Gatekeepers' wages and special police duty.

[4] Organizational Chart, Department of Parks, Borough of Manhattan and Richmond, *Annual Report for 1915 for the Department of Parks of the City of New York*, p. 108. Figures given here assume an estimated one-fifth of the 776 employees listed in various categories were assigned to Central Park.

[5] *Six years of Park Progress*, Department of Parks, City of New York, 1940, p. 44.

[6] The parks system Moses had inherited in 1934 totaled 14,827 acres; by 1964, there were 35,760 acres. Subtracting 9,670 underwater acres, mostly in Jamaica Bay, and 2,970 acres of parkway roadbed, this represents a net increase of over 60 percent in park acreage in New York City at a time when land was, for the most part, no longer vacant nor as cheap as it had been during the great park-building period of the nineteenth century.

[7] *A Study of Central Park*, E. S. Savas, Center for Government Studies Graduate School of Business Columbia University. New York, 1976, pp. 3-10.

[8] *Department of Parks and Recreation Span of Control Survey*, 1977.

The Plan in Progress

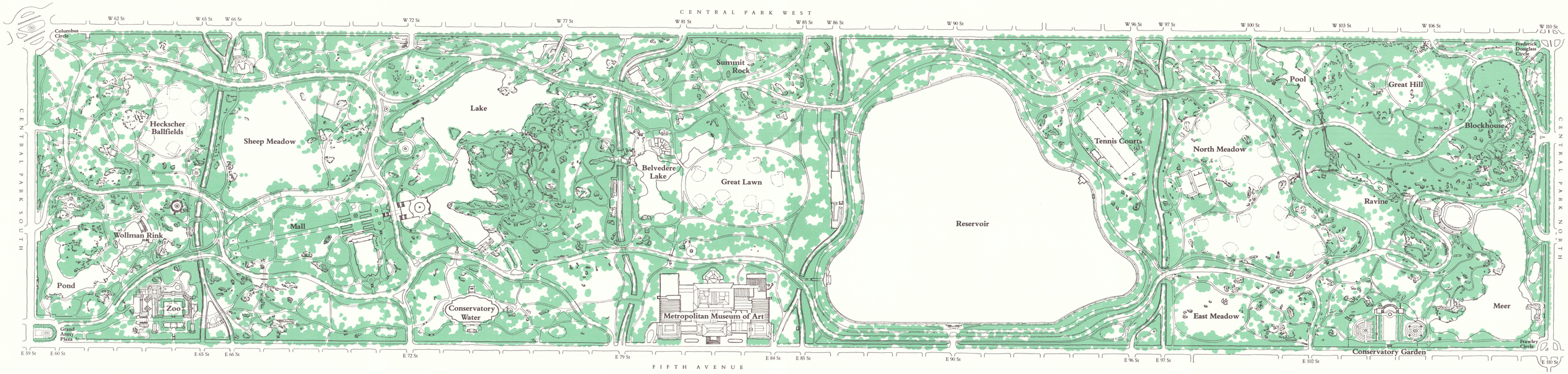
In the course of compiling the present plan for Central Park, a number of projects have been started and are at various stages of completion—Bethesda Terrace, Cherry Hill, the Sheep Meadow, the Dairy and the Great Hill, to name but a few. The handling of these projects follows the approach embodied in the pages of this report, not just in the matter of aesthetics but also in regard to subsequent management geared to preventing a recurrence of deterioration.

An in-house crew lays grass sod on the East Green.

Pines are planted at Strawberry Fields, reestablishing the beginning of what Olmsted called the Winter Drive—the West Park Drive northward from 72nd Street.

Craftsmen of the Central Park restoration crew install a bluestone floor at the Cop Cot.

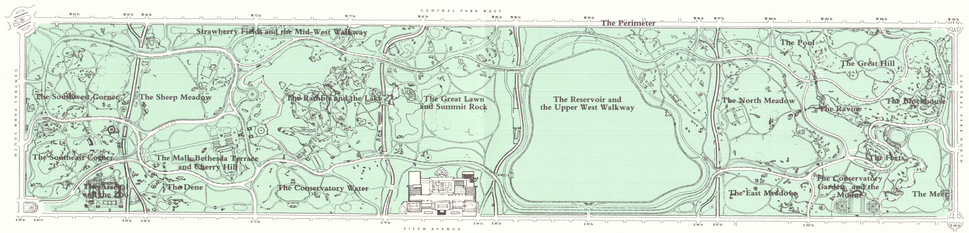
Central Park Rebuilt



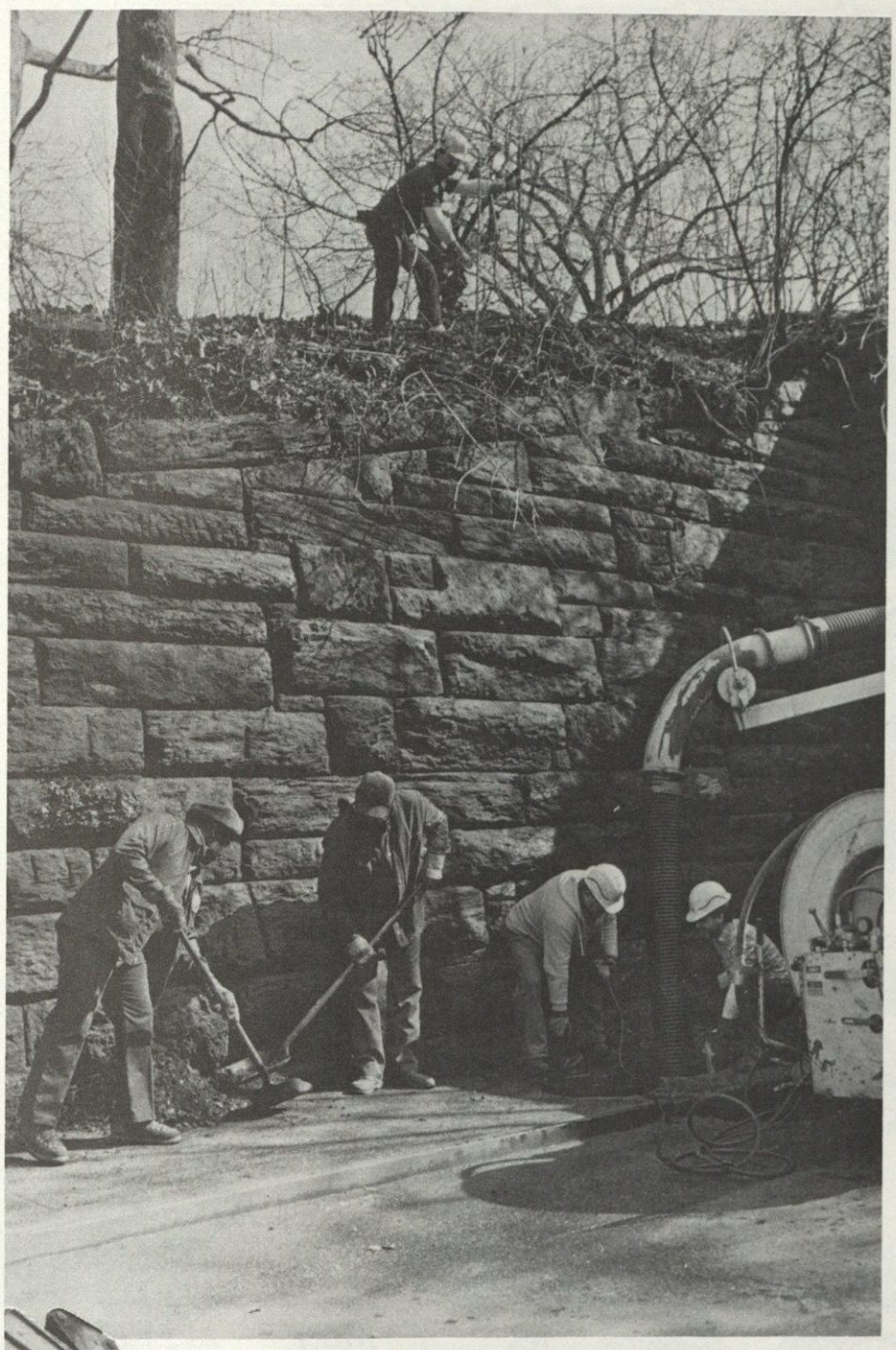
The map above shows how the Park will look sometime around the year 2000 if all of the recommendations offered in this report are followed. (Long-term proposals are not shown.)

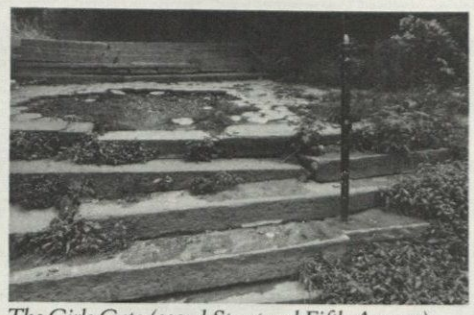
By comparing this map with those on the previous pages, readers will find, for instance, that the southern edges of the Meer follow a more irregular, naturalistic configuration than they do at present. Also, the Loch has been restored through dredging, the historic paths once again lead up to the Blockhouse, the Bridle Trail is contained above 86th Street and its southern portion has been converted to pedestrian use. The West 90th Street entrance has been closed to cars and serves as an entrance to the Bridle Trail, Belvedere Lake has been enlarged, the oval has been moved 200 feet north and paths in the Southwest Corner have been redesigned to orient pedestrians as they enter from Columbus Circle.

Sections of this map appear on the following pages along with a detailed discussion of proposals for each of 21 precincts in the Park. Like the above, they are not maps of existing conditions; they incorporate all short-term recommendations.

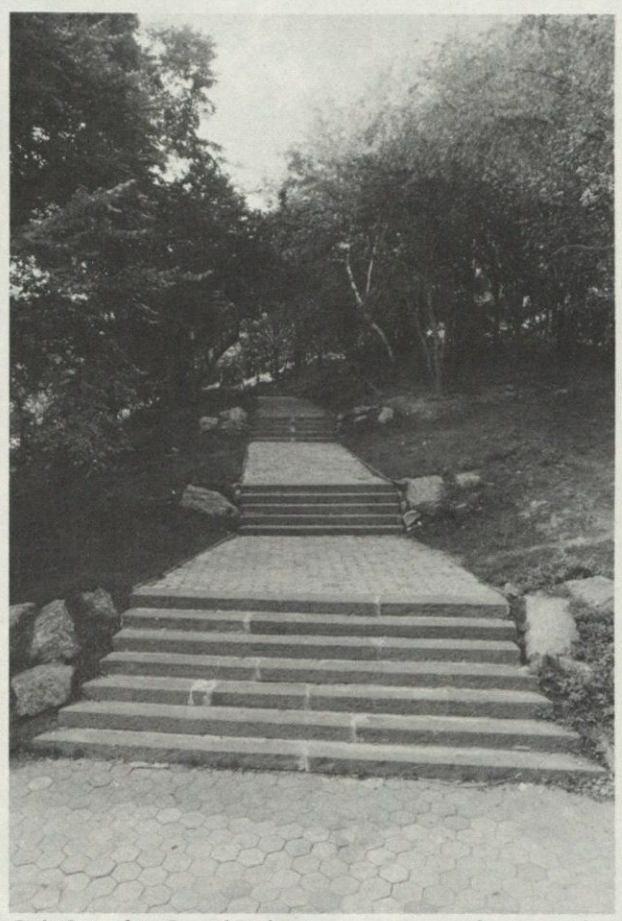


Work on the transverse roads has been an example of inter-agency cooperation, with in-house crews pruning trees and personnel from the Department of Environmental Protection cleaning catch basins.



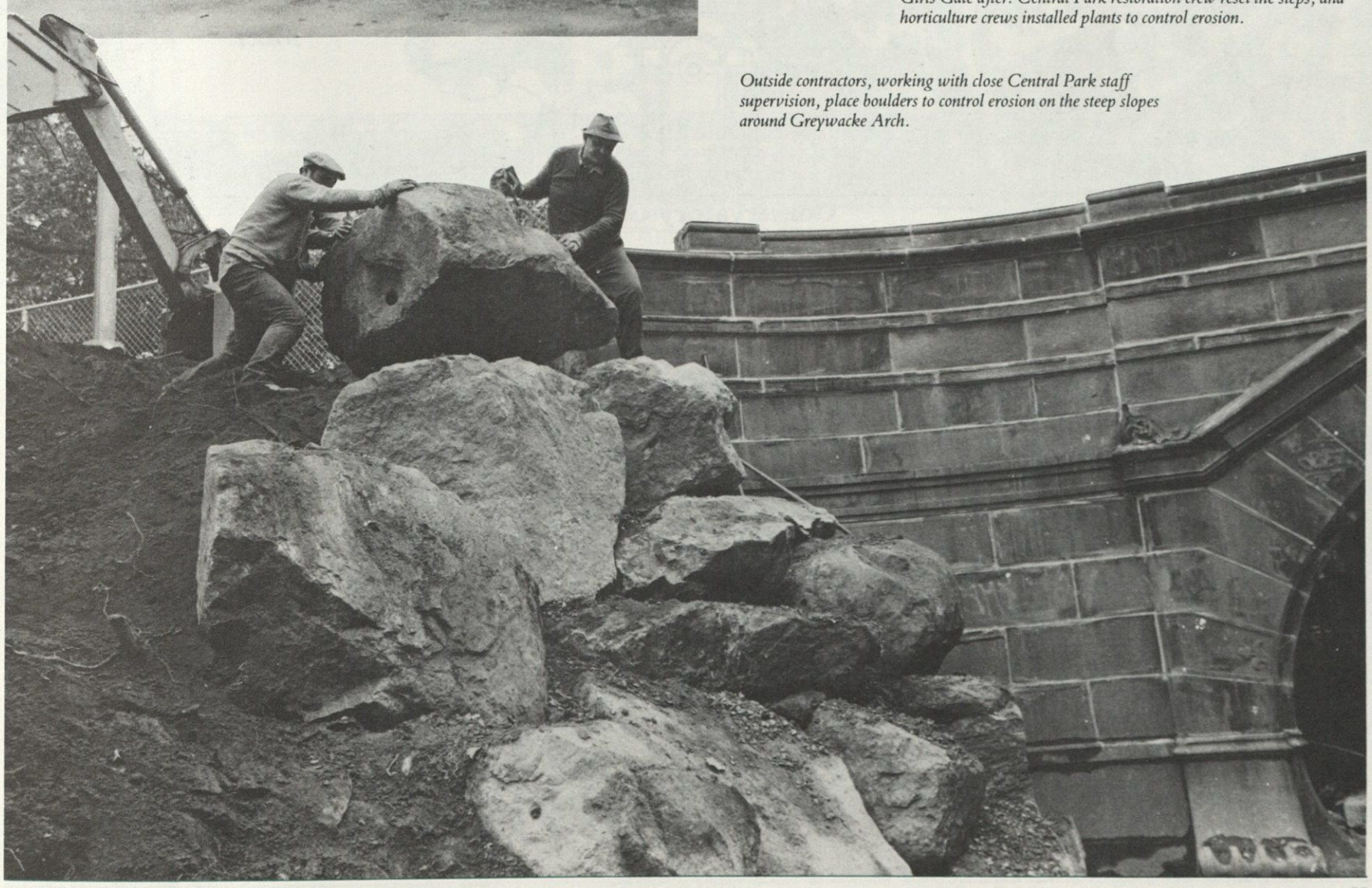


The Girls Gate (102nd Street and Fifth Avenue) before: erosion and broken steps.

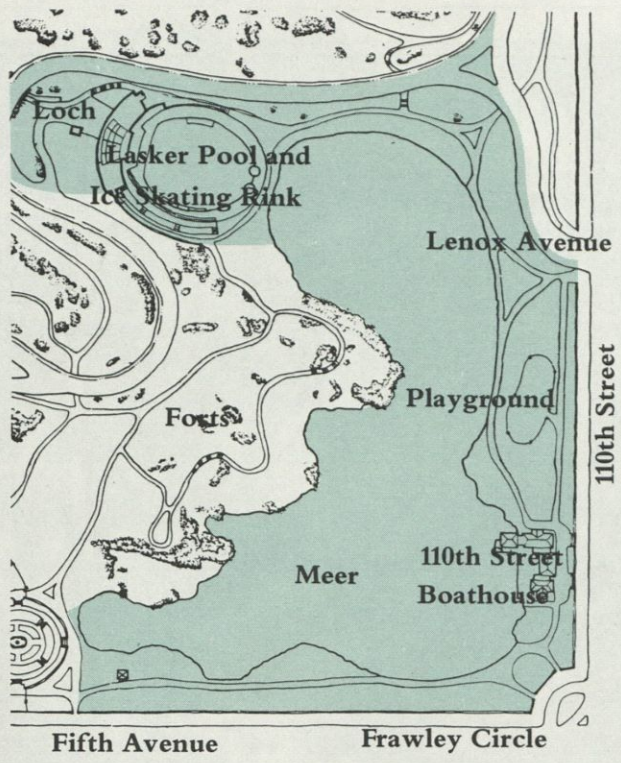


Girls Gate after: Central Park restoration crew reset the steps, and horticulture crews installed plants to control erosion.

Outside contractors, working with close Central Park staff supervision, place boulders to control erosion on the steep slopes around Greywacke Arch.



The Meer



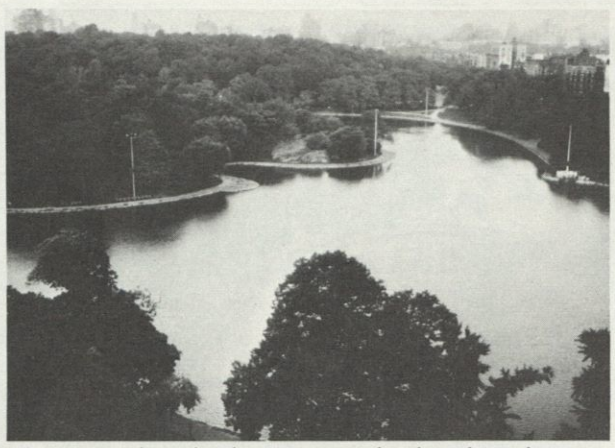
The Harlem Meer is the second largest water body in Central Park, and it is also the Park's lowest point of elevation. Before the Park was built, the Meer was the westernmost edge of a large tidal marsh reaching in from the East River. Montayne's Rivulet and Harlem Creek emptied into it from the west.

The northern boundary of Central Park was originally 106th Street. The decision to extend the Park to 110th Street was made in 1858, and the additional 65 acres were acquired by the city—including what is now the Meer—five years later. An 1860 design for this Northeast Corner called for a formal canal and a promenade in the French tradition. The next year, the design was changed to a large free-form lake with an informal edge, and that is what was constructed. This water body was called the Meer, the Dutch word for "lake." The Meer's shoreline consisted of several coves and peninsulas and two sandy beaches. There was a small island in the southwest corner.

As with all the other water bodies in the Park, the bottom of the Meer was concreted several times in response to citywide malaria scares, but the most brutal alteration came in 1941, when the Meer's naturalistic shoreline was bulldozed and smoothed out, its coves and grassy peninsulas obliterated and the entire edge rimmed in concrete.

At the same time, a boathouse, a smaller brick concession and two typical oval-shaped perimeter playgrounds were also built. Though heavy-handed in the tradition of this era, the placement of facilities at this end of the Park was an acknowledgment that the neglected North End, surrounded by a densely populated urban setting, required services that users of the South End had enjoyed for years.

In 1966, the Meer was altered yet again when the Lasker Pool and Ice Skating Rink was built in the southwest corner directly over the mouth of the stream leading from the Loch to the Meer. A five-foot culvert was installed under the structure so that water from the Loch could continue to the Meer. Lasker Rink, along with the previous alterations mentioned above, reduced the size of the Meer to 11 acres from its original 14. Unfortunately, since the the rink was built in a major drainage corridor, it immediately began to have seepage problems.



The Meer with its shoreline reengineered and regularized, in contrast to the natural contour shown in the photo at top of page.

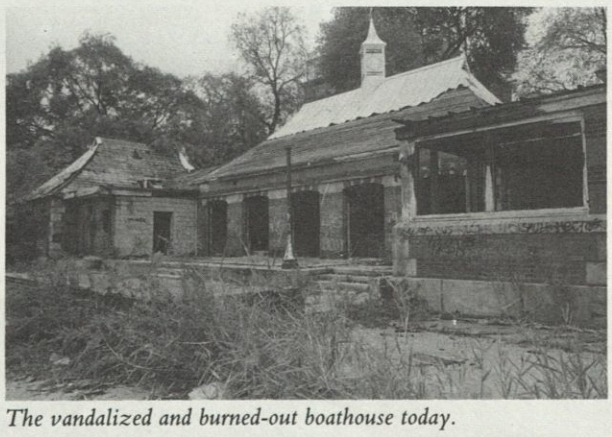
Existing Conditions

Dog-walking and bench sitting are currently the main activities in this section of the Park, along with skating and swimming at Lasker.

Most of the project area is in extremely dilapidated condition, with the exception of the recently renovated 110th Street Playground. The 110th Street Boathouse is a disgraceful eyesore: vandalized, weed choked, burned out and virtually stripped to its shell.

The stones edging the Meer are slowly being dislodged by the erosive force of storm water and lack of maintenance. Approximately 186,000 cubic feet of sediment have accumulated at the bottom.

The 110th Street Boathouse when new.



The vandalized and burned-out boathouse today.

Water quality studies indicate that the Meer is in a hypereutrophic state, but it still supports a diversified fish population. Large mouth bass, pumpkin seed, blue gill and banded killifish have been collected, but most are quite small. Fishing does occur from the banks, but not nearly as much as when the Meer was stocked regularly (1959–1963 and 1978–1979).

The Meer's drainage watershed is the largest in the Park—192.9 acres—and even though the outlet structures are in fairly good condition, this water body has been rated by engineers as able only to pass a ten-year storm frequency test, meaning that it would be likely to flood at least once every ten years. This is largely due to its reduced size and hard stone-and-concrete edge.

The surrounding landscape has lost much of its ground cover, and there are virtually no shrubs or understory trees along the perimeter wall. On the other hand, some of the most spectacular large trees in the Park are located on the Meer's eastern edge. A mature stand of Turkey Oaks, a 44-inch caliper Black Willow, a 59-inch caliper European Beech and two outstanding Dawn Redwoods grace the site. Other trees include elms, lindens, hawthorns, crab apples, Black Locusts, ginkgoes and several species of oak.

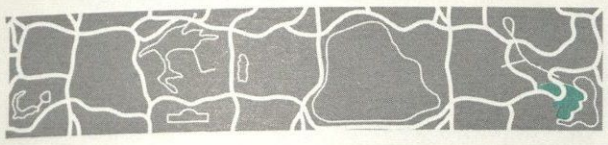
Recommendations

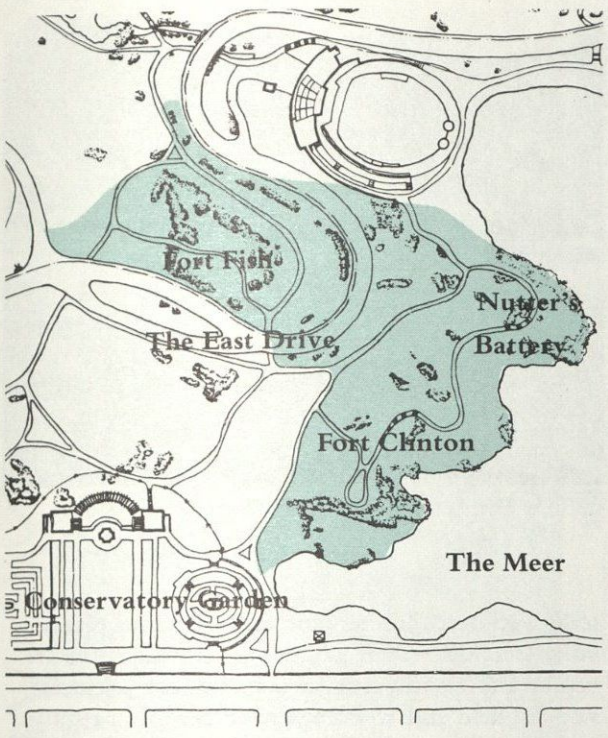
- The rehabilitation of the 110th Street Boathouse, the Meer and its landscape should be major priorities. The boathouse should be rebuilt in the spirit of the original architecture of the Park. Once opened, it will provide an important Park destination and terminus for the north-south circulation route between 97th Street and 110th Street on the east side.
- The Meer should also be dredged and its natural edge restored, but not until the upland parts of the surrounding watershed are relandscaped and slope erosion is controlled. Since the narrow landscape strip bordering the northern and eastern edges of the Meer forms its own discrete watershed, it should be immediately relandscaped. Redundant pathways and iron fences within this area should be removed, as should the infrequently used playground at 108th Street and Fifth Avenue.
- The understory adjacent to the wall should be replanted, the ground plane resoiled and returfed, new benches installed and the heritage trees protected and given special care.
- In the long term, if it becomes feasible, the Lasker Pool and Rink should be relocated outside the Park and the beautiful stream connecting the Loch and the Meer restored. (See recommendations for the Ravine, page 63.)

The edge of the Meer, with Lasker Rink in the background.

The Forts

"The consequences of 40 years of neglect have made the forts more hospital to animals than to human beings."





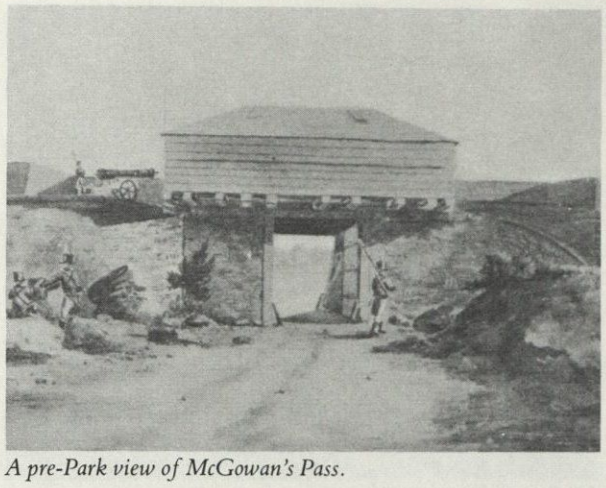
The steep bluffs of Harlem Heights at the north end are possibly the least visited features of Central Park, but they are the richest in historic lore. During the Revolutionary War and the War of 1812, these hills served as strategic military outposts for American troops and for the British enemy as well.

The Revolutionary War: A British Stronghold

In the days before landfills and bulkheads added acres to the edges of Manhattan the island was not as wide as it is today. Harlem Heights, which stood between the Hudson River and the Harlem Creek marsh, was a natural battlement not easily traversed except for McGowan's Pass, a narrow gap that got its name from a popular roadside tavern. The site of McGowan's Pass is some yards west of what is now Fifth Avenue, just inside the present Park at about 106th Street. It was, as the British noted, a place where "a few troops might stop an army."

This is precisely what the British attempted to do in September of 1776. After defeating the Americans at the Battle of Long Island, the British headed for McGowan's Pass, hoping to trap General George Washington and his troops on the southern end of Manhattan. Washington realized his predicament just in time and hastily evacuated the island, moving his men and arms through McGowan's Pass and retreating to the north.

A rear guard, led by a regiment of Marylanders, delayed the Redcoats long enough for Washington to make good his escape and then just barely made it through the pass themselves. The next day the British occupied the pass. After the Battle of Fort Washington two months later, the



A pre-Park view of McGowan's Pass.

victorious British led 2,800 American prisoners back through McGowan's Pass into prisons in British-held New York City. It was not until the end of the war seven years later that American troops, under the command of General Henry Knox, once again marched through the pass on their way to liberate the city.

The War of 1812: An American Fortress

Thirty years later McGowan's Pass was a lookout point for the Americans during the War of 1812. Throughout most of the war, the Americans had expected a British invasion from the south by sea. Guns and lookouts were trained in that direction from the Battery at the southern tip of Manhattan. However, when the British bombarded Stonington, Connecticut, in August of 1814, the American command began to fear the British might instead be planning an assault by land from the north.

Immediately, the citizenry of New York mobilized to build a chain of fortifications on the high bluffs of Central Park. Working day and night, butchers, lawyers, Freemasons, students from Columbia College, tallow chandlers and others labored over the summer. By October they had completed Blockhouse #1, a second blockhouse straddling McGowan's Pass, Fort Fish (an open earthwork with a mounting for five guns), Fort Clinton (a three-gun earthwork named after Dewitt Clinton, mayor of New York) and the single-gun Nutter's Battery. Three months later the Treaty of Ghent was signed and the war was over. Not a single shot had been fired at any of the forts.

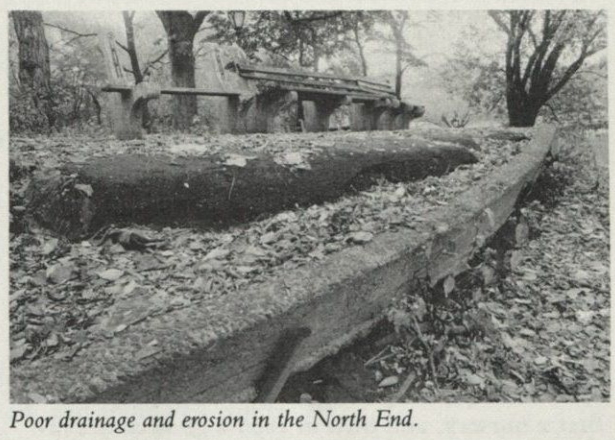
When the north end was added to the original Park purchase in 1863, remnants of these fortifications remained. However, not much was done with them by Olmsted and Vaux, who were busy with the construction of the rest of the Park.

Existing Conditions

There has been little regular maintenance of the forts and their environs since improvements involving paths, benches and plantings were carried out during the Moses administration. The consequences of this neglect have made the place more hospitable to wildlife than to human beings. A dense forest of Black Cherry and other self-propagating species has taken over most of the hillsides, shading out understory and ground plane shrubs and leaving the exposed slopes to erode into the Meer below. Stairs, walkways, benches and lights have all deteriorated.

The Fort Fish site is now barren, devoid of either military relic or grass. Trees block the northern view that once made this a prime defensive lookout. The Andrew Haswell Green Memorial Bench (named after the man who was Central Park's first comptroller and also a founder of the Museum of Natural History and the Metropolitan Museum of Art) stands here unused and unseen.

The Fort Clinton site consists of an asphalt pad dating from the 1940s and of little else besides a portion of a fence that once surrounded it and a pedestal that once supported a commemorative cannon, which has either been stolen or rolled into the Meer. A small meadow flanks the crest of the hill and does provide views to the north and east.



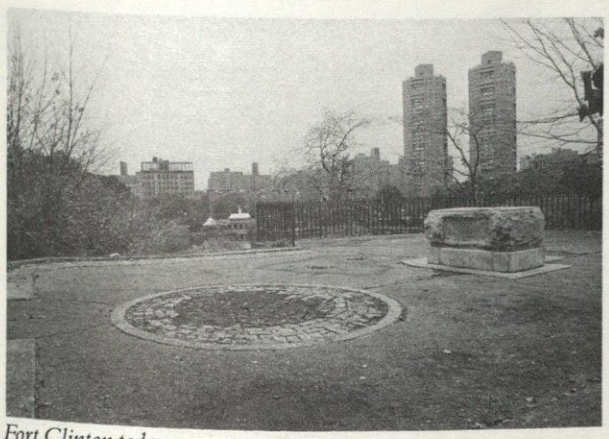
Poor drainage and erosion in the North End.

Nutter's Battery: vandalized and derelict.

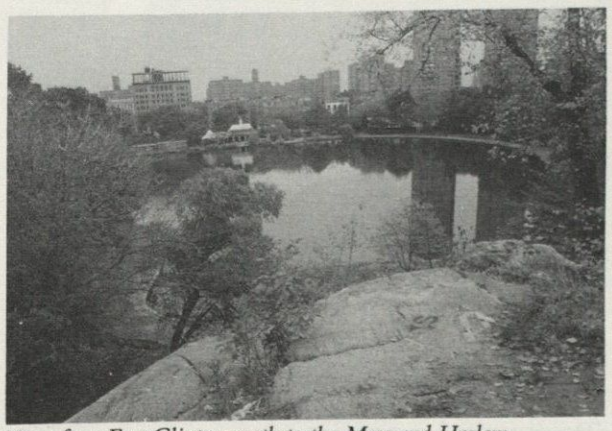
The site of Nutter's Battery is encircled by a low stone wall and several benches; both wall and benches are in disrepair.

Recommendations

- An interpretive trail should be built connecting the three fort sites with explanatory signs denoting the historic significance of each.
- Trees should be thinned to allow sunlight into the understory, after which a new layer of understory vegetation should be planted.
- A few grassy clearings should be opened up to provide food and foraging opportunities for birds.
- Thorny vegetation should be used on steep slopes to discourage off-path foot traffic and to control erosion.
- The asphalt should be removed from the Fort Clinton and Nutter's Battery sites and replaced with soft surface material. New benches, fewer in number than the existing broken ones, should be installed.

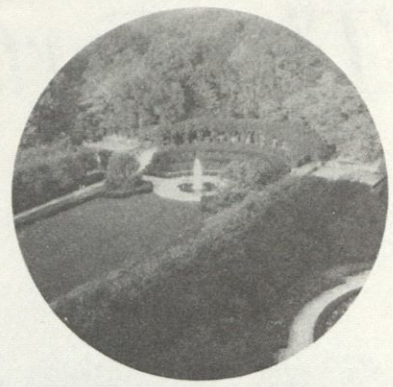


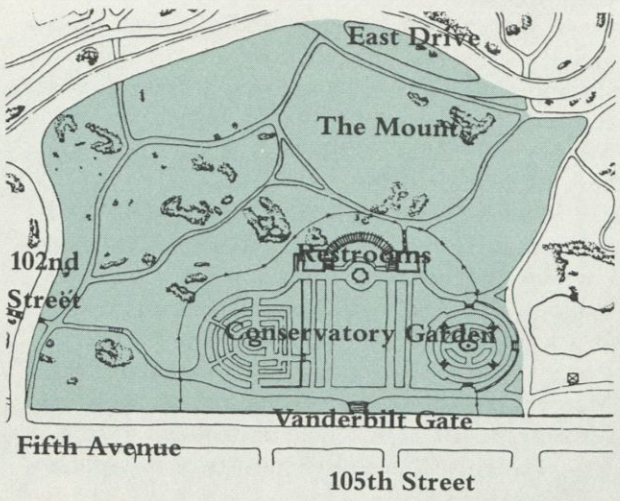
Fort Clinton today.

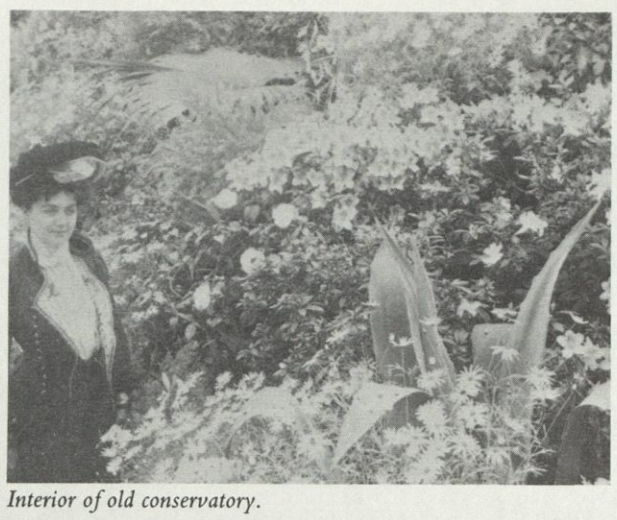


View from Fort Clinton north to the Meer and Harlem.

The Conservatory Garden and The Mount







Interior of old conservatory.

North Garden of present Conservatory.

Conservatory Garden, located at 105th Street and Fifth Avenue, is one of Central Park's unique horticultural ornaments. Its formal hedges and flower beds stand in elegant contrast to the rest of the Park's flowing naturalistic landscape.

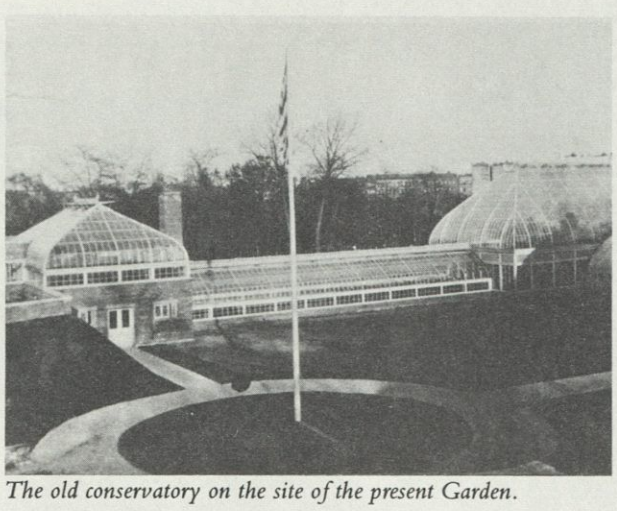
Olmsted and Vaux intended this area of the Park to be part of a large arboretum dedicated to native American trees and shrubs. The arboretum was never built, but the area has always featured specialized plantings of one sort or another. It was first a nursery, and then in 1899 a glass conservatory was built on the site.

Of this restaurant, Clarence Cook wrote in 1891, "[It] is one of the pleasantest places of the kind in the city or near it. There are large rooms with many tables for those who like a crowd and there are small rooms with a few tables or only one, for those who wish to enjoy, in private, the society of their friends. Then there are the piazzas, the balconies and open grounds, where creams, ices and light refreshments can be enjoyed in the fresh air. . . ." In the nineteenth century, the former convent's chapel was used as a statuary gallery. But the entire complex was demolished in 1917. Only the foundation remains; a composting operation is currently conducted in this location.

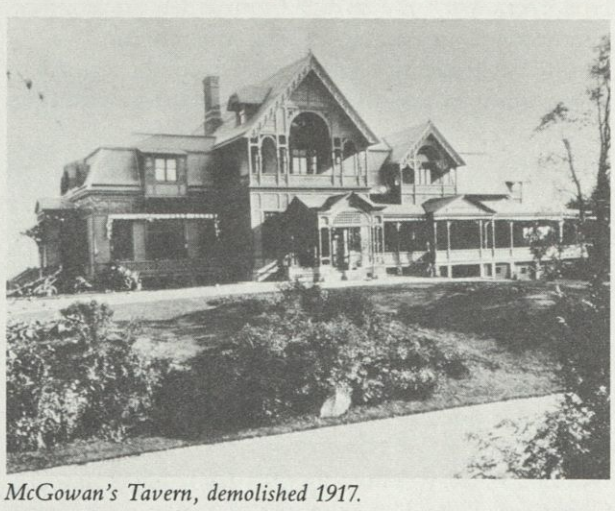
Today, the landscape surrounding Conservatory Garden and the Mount is comprised of small meadows. There are a number of superb specimen oaks: Bur Oaks, Black Oaks and many fine Turkey Oaks.

In 1982, major restoration of Conservatory Garden was undertaken by the Central Park Conservancy. Graffiti was removed, trees and shrubs were pruned, new plants were added and a full-time gardener was hired.

Because of its now thriving condition, attendance at Conservatory Garden has increased dramatically. Schoolchildren come to learn about plants, volunteers offer their gardening services, tours are conducted (also by volunteers), concerts are occasionally held and weddings have become a regular warm-weather weekend occurrence. When repairs to the south gate are completed, and it is reopened later in 1985, Conservatory Garden's pathways will once again be a part of Central Park's main north-south pedestrian circulation spine, and the garden will serve as a surprising and delightful link between the East Meadow and the north end.



The old conservatory on the site of the present Garden.



McGowan's Tavern, demolished 1917.

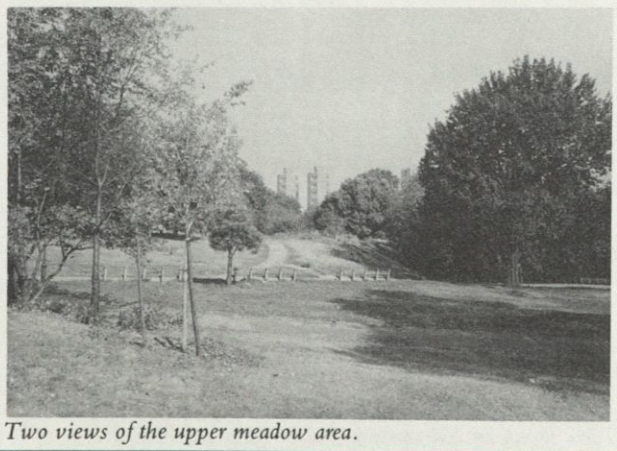
"In the course of major restoration in 1982, graffiti was removed, trees and shrubs were pruned, new plants were added and a full-time gardener was hired."

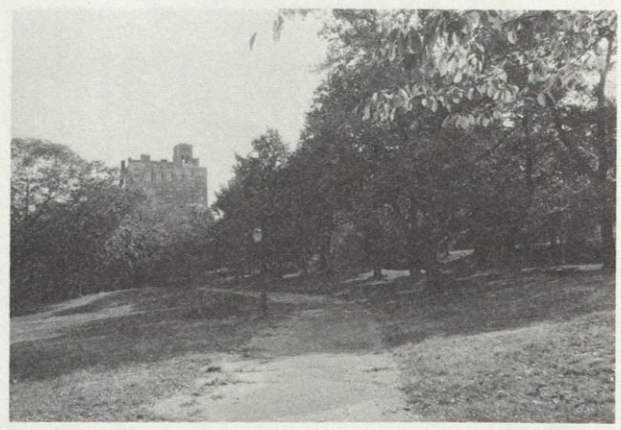
The glass conservatory was torn down in 1934, and the present three-part Conservatory Garden was laid out in its place. The north garden is built in a circular French parterre style and contains tulips and chrysanthemums, depending on the season; the south garden is planted with perennials; and the center garden is a rectangular greensward edged with yew hedges and *allées* of crab apples. At the western edge of the center section, the garden rises in semicircular tiered hedges with a terrace and an iron pergola supporting wisteria. Brick buildings on both sides of the terrace are set into the hillside; they house rest rooms and maintenance facilities. The roofs of the buildings function as terraces. Fountains decorate each of the three gardens, and an ornate French iron gate that originally stood at the front of the Vanderbilt mansion at 58th Street (now the site of Bergdorf-Goodman) graces the Fifth Avenue entrance.

Rising above Conservatory Garden to the west is the Mount, so-called because it was once the site of the Mount St. Vincent convent. The Sisters of Charity moved out when the Park was built, and the convent buildings became a tavern. The tavern burned to the ground in 1881 and was replaced by a restaurant.

Recommendations

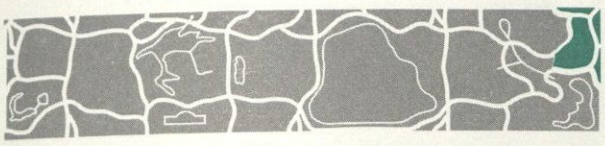
- In the garden, the flagstone pavement, the fence, the gates, the brick walls holding back the slope on the west and the wrought-iron trellis should be repaired.
- The brick buildings and the terraces require substantial restoration. The men's rest room is in particularly bad repair.
- The lawns to the north and south of the garden need general landscape rehabilitation.
- The entire circulation system of the area should be repaved, benches replaced and the drainage system cleaned.
- The composting operation should be relocated, mechanized and made more scientific and efficient. The Mount offers a possible site for a badly needed Central Park administration building.

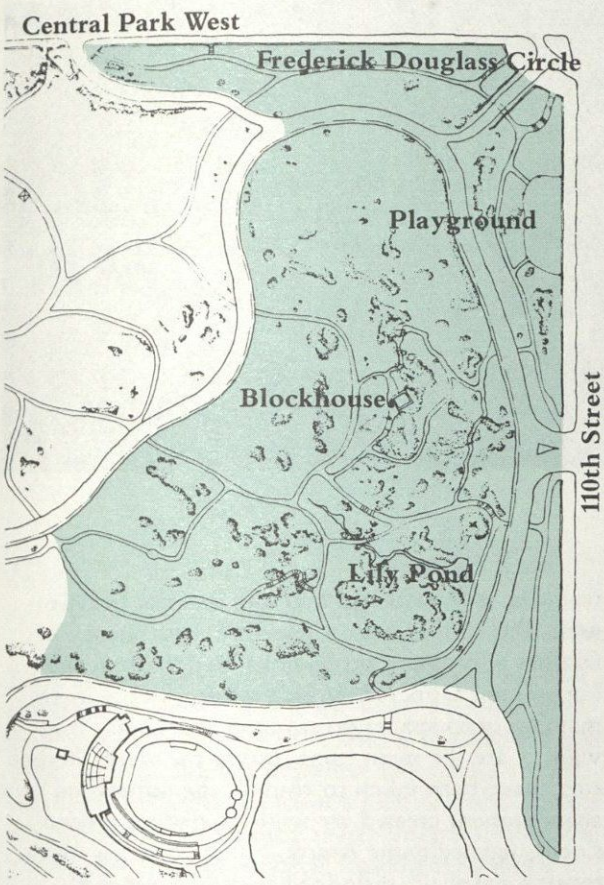




Two views of the upper meadow area.

The Blockhouse



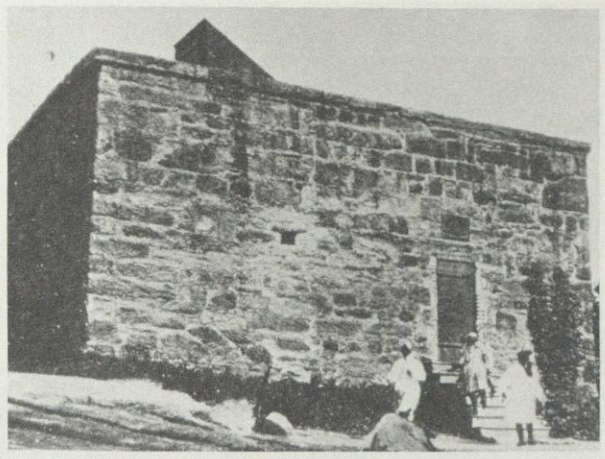


The hilly and heavily wooded north end of Central Park is more than merely a preserve of trees and wildlife. With its cliffs and bluffs and steep ravines, it is a topographical time warp of Manhattan. The engineers who built the streets of New York City smoothed out and flattened the land that lay outside the walls of Central Park. They used the cut-and-fill technique: crests of hills were cut off and low ground was filled in. Although Olmsted and Vaux shaped and highlighted the landscape features of Central Park, they left much of its topography, especially that of the North End, essentially as it was. So it remains today as a reminder of how the land around it used to lie.

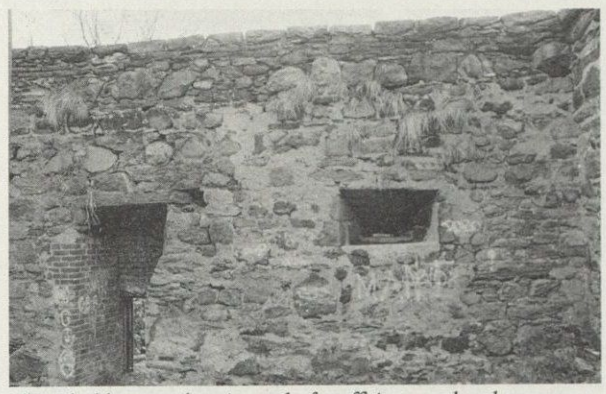
Just inside the Park at 110th Street, at the top of a steep escarpment, there stands a reminder of something else as well—the War of 1812. The Blockhouse, a square open-roofed fort, was built in 1814, when it seemed that the British might attempt an attack on New York from the north. They did not, and only three months after it was built, the Blockhouse was abandoned.

Nonetheless, to the Blockhouse belongs the distinction of being the oldest building in Central Park and one of only two that predate the Park itself (the other being the Arsenal at 64th Street and Fifth Avenue). The thick walls of the Blockhouse are made of rough-hewn rocks; two horizontal gun ports are cut in each wall.

Olmsted and Vaux envisioned the landscape around the Blockhouse as a woodland with paths leading up to the fort from all sides. The most intricately designed walkway was the beautifully crafted approach from the north. It wound up the cliff in pleasing curves and switchbacks, its broad stone steps cutting through the cliff's rock face on the way.



The Blockhouse at the turn of the century.



The Blockhouse today, in need of graffiti removal and masonry repointing.

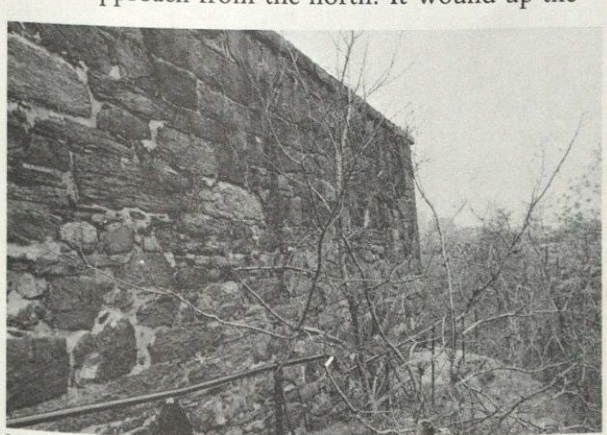
A tree survey made in 1873 shows that Olmsted and Vaux enhanced but did little to alter the character of the existing forest. They encouraged native tree species such as hickory, Basswood, American Linden and beech. They planted English ivy, honeysuckle, clematis and other vines that tumbled over the rocks. A spring to the east of the Blockhouse created a slender stream that, according to the late-nineteenth-century historian Clarence Cook, ran "with a musical tinkle down the slopes, falling from one rocky or reedy basin to another, until, at length, in a series of pretty miniature cascades, it reaches a circular pool on the level ground at the foot of the hill."

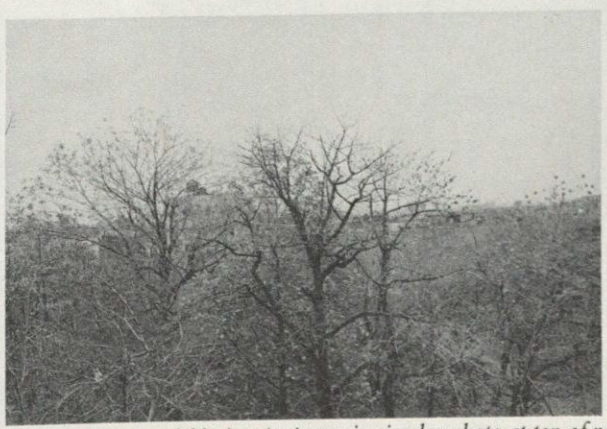
In recent years, the Blockhouse has not received very much attention, either from Park managers or the public. The structure is not maintained at all. The commanding view it used to have is partially obscured by trees. Paths are deteriorating, the lily pond at the bottom of the hill is silted up and overgrown, and water no longer cascades down to it. Because of the steep topography and wooded seclusion, it is infrequently visited.

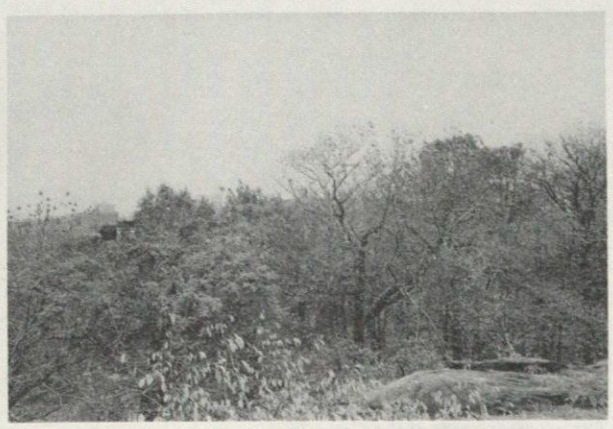
"The commanding view the Blockhouse used to have is partially obscured by trees. Paths are deteriorating, the lily pond is silted up and overgrown."

Recommendations

- The Blockhouse should be cleaned and its stones repointed. The flagpole in the center, which is neither used nor historically correct, should be removed. Signs should be installed to explain the historic significance of the Blockhouse and this area of the Park as a whole.
- The deteriorating path system should be reconstructed, particularly the approach from the north through the rocks. Vines, ferns, native shrubs and ground covers should be planted so that they tumble over and around the rocks once again, creating lush pockets of deep green.
- The historic paths on the east slope should be rebuilt and the desire lines removed.
- Elsewhere, especially on slopes, the eroding soil should be stabilized with native plantings. The swelling population of Black Cherry, ash and maple trees should be trimmed back. They already make up 65 percent of the tree population in this area. Native forest trees—oaks and hickories—should be planted instead.
- Japanese knotweed (*Polygonum cuspidatum*) is rampant and should be controlled.
- Some of the open spaces that existed in the original Blockhouse landscape should be re-created as permanent herbaceous openings, attractive to people and wildlife. These glades should be mowed once or twice a year to keep back woody plant growth.
- The lily pond should be dredged and enlarged. The cascades and basins leading to it should be rebuilt. Japanese knotweed is a particular problem here and should be controlled. Hemlocks, native shrubs, vines and ground cover should be planted.
- The perimeter landscape along Central Park West and 110th Street, which lies far below street grade and is thus rather forbidding, should be redesigned. The form of its redesign will depend on whether or not the vehicular entrance from Frederick Douglass Circle is transformed into a pedestrian promenade or remains as it is at present (see page 87).
- *If the entrance drive remains:* the steep slopes along Central Park West should be stabilized with ground covers and shrubs, the drainage system rehabilitated, shade-tolerant groups of evergreens planted and the stone steps repaired.
- *If the entrance drive is removed:* the arch that links it to the West Drive (and now cuts the perimeter landscape in half) should be removed and the ground raised up to street level. This major topographical revision would provide the opportunity to create an entirely new and more agreeable Park landscape.
- In either case, the 110th Street Playground should be constructed closer to the wall.



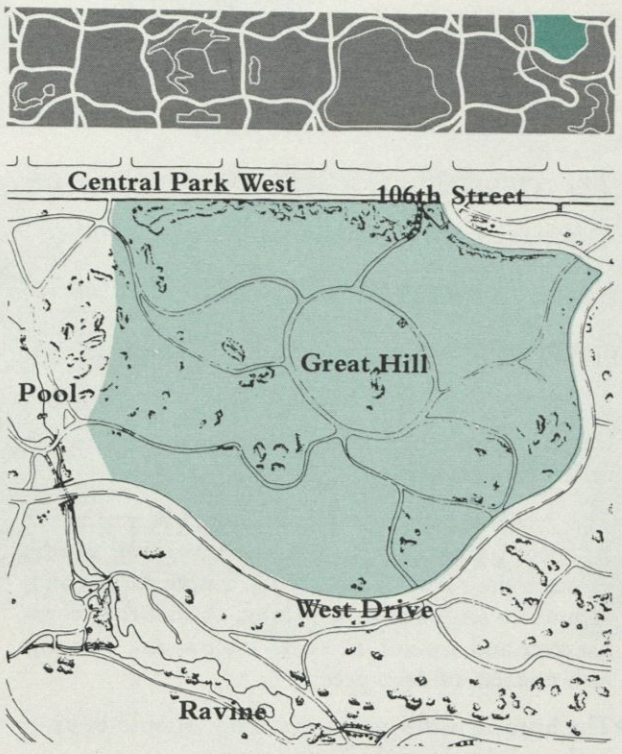




Northward views from the Blockhouse are obscured by trees. Historic view north toward Harlem is shown in circular photo at top of page.

The Great Hill

"Recent steps have been taken to counter the impression of abandonment created by wild vegetation, eroded slopes, unused game courts, broken benches, disintegrating asphalt…"



The Great Hill—in the past variously known as Harlem Heights, the Circle, the Concourse and Bogardus Hill—is bounded by Central Park West, the West Drive, the north edge of the Pool and the 106th Street entrance road. It is a 35-acre meadow-and-woodland knoll that rises to a height of 134 feet—the highest elevation in the Upper Park and the third highest overall, after Summit Rock and Vista Rock. Because of its steep topography, and because it once commanded panoramic views of Manhattan, the Palisades and Long Island, the Great Hill was used as a military encampment during the Revolutionary War. Traces of the camp, in fact, were found when the Park was under construction.

Olmsted and Vaux had hoped that a monument of some importance would be placed at the summit, one that could also be used as an observatory. Perhaps, they suggested, there could be a tower to commemorate the completion of the transatlantic cable. None was ever built, although the site was considered briefly as a possible location for Grant's Tomb.

The First 100 Years

The 1862 plan of the Park shows a carriage road leading up the Great Hill and ending in an oval loop or concourse. The loop served as a carriage overlook. In the middle of it there was a 1.1-acre lawn where children could play, and in the course of time, various playing surfaces for field hockey, racquetball, croquet and shuffleboard were all built there.

A set of wooden steps originally led up from 106th Street, but this was replaced in 1909 by a new walk and a dramatic stone stairway that made its way through clefts in boulders. The steps are the longest continuous stone stairway in the Park.

During the first half century of the Park's existence, the crest of the Great Hill and its south-facing slope were open meadow. Irregular swaths of turf ran down the other sides. American elms were planted in groups around the concourse on top of the hill, and elsewhere there were clumps of American beech, a few sugar maples and several large clumps of Staghorn sumac.

Existing Conditions

Little has been done to maintain or improve the Great Hill since the 1930s. What was once sunny meadow is now largely dense forest. Self-propagated trees have encroached upon lawns and shrouded paths, obscuring the hill crest and obliterating the once sweeping views of the Harlem plain and, beyond it, the Hudson River and Long Island Sound.

Abandoned and vandalized recreation facilities on the Great Hill are being removed and the area restored to open lawn.

These trees consist mainly of ash, Black Cherry, Sycamore and Norway Maple, fir, and Red Oak. As is true elsewhere in the Park, the most numerous species is the Black Cherry, but here there are other trees of considerable interest, including 39 American elms surrounding the circular concourse and 22 percent of all the hickory trees to be found in the Park.

The major ground cover in the woodland is wood aster and tree saplings. Severe erosion and bare ground is confined primarily to the South End, but all parts of the woodland edge are eroded to some degree, especially where there is off-path traffic.

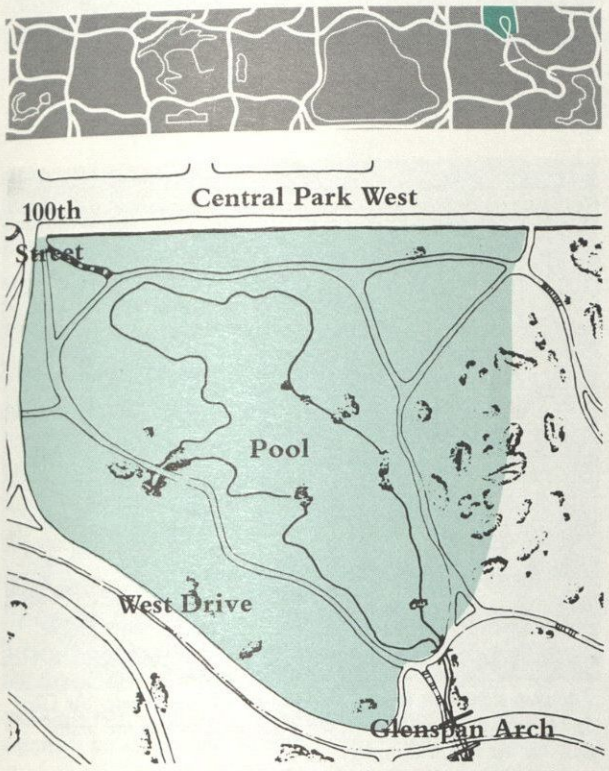
Like Summit Rock, the Great Hill's topography and overgrown vegetation tend to isolate it from the surrounding Park, and it is not heavily used. But it does have a growing constituency of families and young professional people from the burgeoning Upper West Side who populate its remaining open spaces on summer weekends. Dog-walkers are the main users during the week. Recent steps have been taken to counter the impression of abandonment created by wild vegetation, eroded slopes, unused game courts, broken benches, disintegrating asphalt, dislodged steps and a locked comfort station. Derelict play facilities have been removed and are being replaced by grass, and the comfort station will be repaired.

Recommendations

- The Great Hill, like many other areas of the North End, needs only subtle landscape rehabilitation. No changes in path alignments are recommended, only repairs.
- All of the stone steps should be reset, especially on the 106th Street stairway.
- The double pathway on top of the hill should be removed and replaced by one as wide as the original.
- Benches should be placed at intervals around the concourse.
- Existing pockets of open space should be maintained and gradually increased, especially along pathways and on the south slope down to the Pool. Meadow fingers should be established in some of the present woodland and edge areas.
- Other parts of the hill should be planted and maintained to increase the diversity of species. Native trees—Sugar and Red Maple, hickory, American beech, sweet gum and Black Walnut—should gradually replace prolific self-seeders such as Norway and Sycamore Maple. Woodland edge plantings should include bayberry, sumac, buckthorn blackberries and multiflora rose.
- The comfort station should be reopened for summer weekend use.

The meadow north of the Great Hill.

The Pool



The Pool is a small 2-acre water body located near 102nd Street and Central Park West. Like the other Park water bodies, it is the creation of Olmsted and Vaux. In this case, the designers enlarged a stream, Montayne's Rivulet, to form a picturesque sequence of quiet sheets of standing water linked by five waterfalls that are also artificial, having been created by the massing of boulders in the original streambed. The Pool forms the head of this watercourse, which flows eastward to the Harlem Meer.

Olmsted and Vaux made the Pool a spot of unusual beauty, planting specimen trees on its south shore's gently rolling landscape. They covered the narrow west edge with dense planting all the way up to the perimeter wall. On the steep slopes up the Great Hill to the north, however, they left an open sunny meadow, and on the southeastern shore they built a small beach that became a favorite haunt of ducks and geese.

Robert Dempker, the horticulturalist who inventoried the Park's plants in 1873, found some interesting vegetation around the Pool. At the water's edge he catalogued, among other things, European Wood Anemone, skunk cabbage and Dutchman's Breeches. Elsewhere he found dogwood, goldenrod, arrowwood, Bog Bilberry, ferns, cotoneaster and Spring Beauty.

A few years later, Central Park Superintendent Samuel Parsons extolled the autumn splendor of the scarlet sumac covering one of the hillsides beside the Pool. In 1903, when Louis Harriman Peet wrote his botanical guide to Central Park, he cited a wide variety of tree species near the Pool. A Bald Cypress that he found on the west edge is still there today.

In 1961, a water main break on Central Park West flowed into Central Park, washing away the Pool's tiny rock island and filling in the southwestern cove. This effectively decreased the Pool's surface area from 2 acres to the present 1.5 acres.

Existing Conditions

Today, the Pool and its surroundings are a composed and peaceful landscape. The grassy topography and majestic trees make it a popular area for family picnics, quiet contemplation, reading, fishing and the investigation of aquatic life. The landscape around the Pool is less distressed than that of other areas of the Park, in part because it is not so intensively used and therefore not subject to trampling.

The area contains a good many mature, well-formed, well-spaced trees, but no single dominant species defines the general character of the space. There are excellent specimens of tulip trees, Bald Cypress and London Plane trees.

In contrast to this general picture of horticultural health, however, the once open meadow on the north slope of the Pool has been filled with volunteer trees and brush, and much of its ground plane is eroded and bare. The western landscape between the Pool and the wall is now composed of a variety of plants, some of fine quality, but they are now sparser than the original dense shrub layer and therefore do not block out Central Park West as effectively as they should. A semi-swamp now occupies the southwest corner of the Pool, where the cove was filled in the 1960s. It is constantly wet, generally unused and of only marginal benefit to wildlife.

The Pool itself requires dredging. The depth of sediment in it varies from 7 to 19 inches, and the average depth of the water today is only 2.2 feet, making it likely to flood at least once in a given ten-year cycle. Since foot traffic around the Pool is generally light, there is less erosion along its banks than around any other of the Park's water bodies. because of its shallow depth, still water and poor flushing movement, the Pool's surface is covered with duckweed and algae in summer.

An old photo of the Pool shows that its atmosphere has changed little.

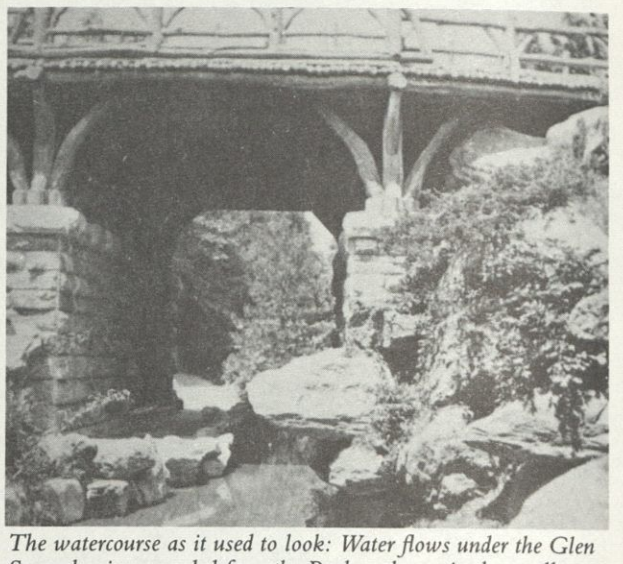
Recommendations

- Generally, the Pool landscape needs clarification by selective removal of some volunteer trees in order to bring the specimens back into view and to allow them to thrive unhindered. Thinning in this manner would also filter sunlight to the ground below, permitting the grass to grow once again.
- Thick understory trees and shrubs, recommended elsewhere as a screen along the Park's border, should be planted on the western slope beside the perimeter wall. The sumac admired by Samuel Parsons should be reintroduced.
- The north slope should gradually be returned to open space, permitting views toward and from the Great Hill and providing a sunny south-facing meadow, a rare commodity in the Park.
- The Pool should be dredged and restored to its former depth. Its outlet structure should be cleaned and enlarged so as to weather storms without flooding. In the dredging process, the lost southwest cove should be restored. A water source of sufficient pressure to flush the Pool periodically, ridding it of duckweed, should also be established near this point.
- The beach should be rebuilt on the south shore, providing easy and nondamaging access to the water's edge. Elsewhere along the shore, aquatic, emergent and wetland vegetation should be planted to stabilize the soil and provide wildlife habitats.

"...the Pool and its surroundings are a composed and peaceful landscape...but a semi-swamp now occupies the southwest corner..."

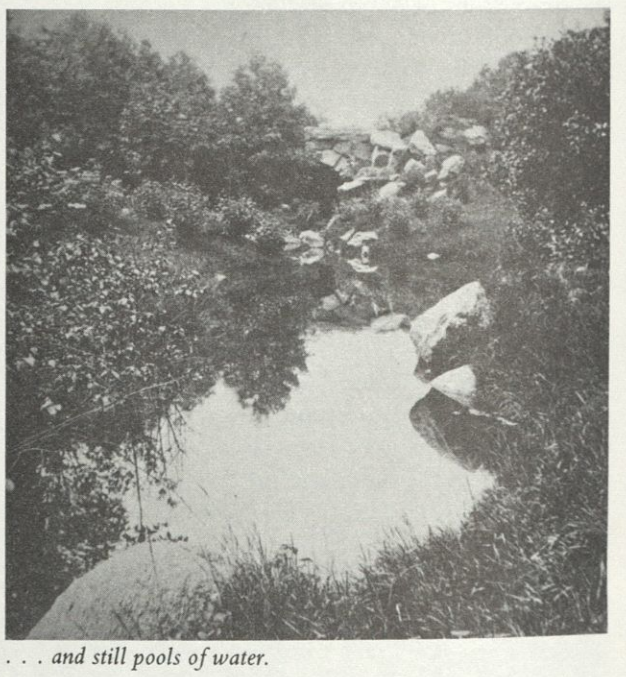
The Pool is one of the most romantic, unspoiled landscapes in Central Park.

The Ravine

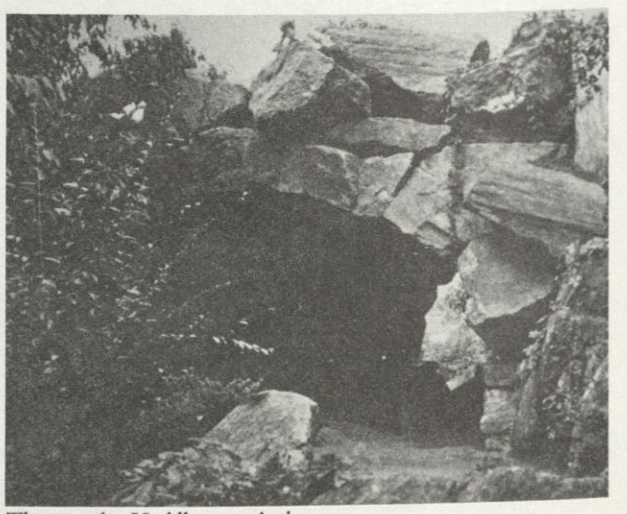


The watercourse as it used to look: Water flows under the Glen Span, having cascaded from the Pool as shown in the small photo at the top of this page.

Past the Glen Span there follows a series of waterfalls . . .



. . . and still pools of water.



Then, under Huddlestone Arch . . .

Frederick Law Olmsted had hoped that the whole of Central Park would serve as a place where city people could escape to a country setting, where the sights, sounds, filth and noise of the city would be nowhere in evidence. He even proposed that buildings along the Park's perimeter not be allowed to rise above a certain height so that they could not be seen from within the Park. He achieved only partial success.

Skyscrapers line the edges of the Park today like giant cliffs, an ever-present—albeit stunningly romantic—reminder of the city that surrounds it. The landscapes in the Park are indeed reminiscent of the country, and there are even a few locations from which the tall buildings cannot be seen and the sounds of the city cannot be heard. Of all such places, however, only one truly achieves a transformation from urban to rural ambience. It is a deep, heavily wooded gorge at the North End of the Park with a tumbling brook coursing along the bottom of it. Visitors to the Ravine are totally shut off from the city, magically transported to a woodland environment that resembles the Adirondacks.

The brook at the bottom of the Ravine is called the Loch. "Loch," of course, is Scottish for "lake," which is a misnomer and has been for many years. Olmsted and Vaux created the Loch out of Montayne's Rivulet, an ambling stream that flowed west to east at about 102nd Street and emptied into the salt marshes of Harlem Creek at Fifth Avenue and 107th Street, now the Harlem Meer. Montayne's Rivulet was dredged and widened into a varied water sequence that started with the Pool on the Park's western perimeter and then flowed over a series of small waterfalls into the 525-foot-long Loch, which in turn emptied into the Harlem Meer. The waterfalls were constructed from exposed bedrock; schist boulders were placed as if by nature to form dams and spillways. In order to obtain a sufficient volume of water to supply this enlarged watercourse, natural drainage into the Ravine had to be supplemented with storm water carried by underground pipes from nearby drives and walkways as well as by another pipe carrying the overflow from the Reservoir.

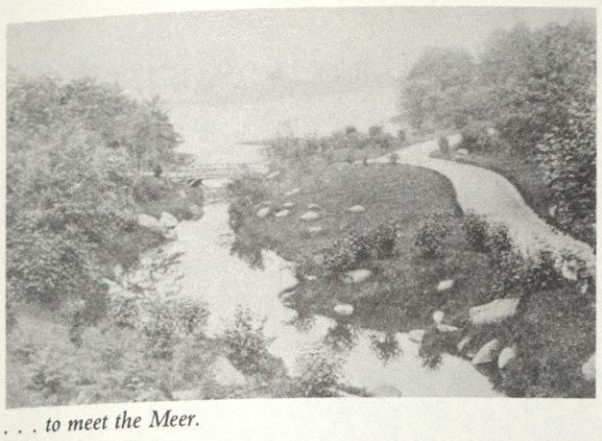
To allow the Carriage Drive to pass overhead without intruding, three rustic stone arches were built—Glen Span, Springbanks and Huddlestone. Glen Span and Huddlestone arches crossed over both the stream and a pathway beside it. Springbanks Arch, off to the south, carried pedestrians under a now unused portion of the Drive to the North Meadow. Fed by a creek from the North Meadow, two pools were constructed at Springbanks, one on either side of the arch. In addition, rustic wood bridges, benches and handrails were placed here and there in the Ravine landscape.

The southeast slope of the Ravine was designed to be a steep meadow dotted with copses of trees. The northwest slope was to be heavily canopied except for a few open glades close to Glen Span. In the early days, streamside vegetation included bullrushes, rose mallow, skunk cabbage, winterberry, sweet fern, sweet birch and several varieties of iris. Clematis and Virginia creeper were planted around the arches.

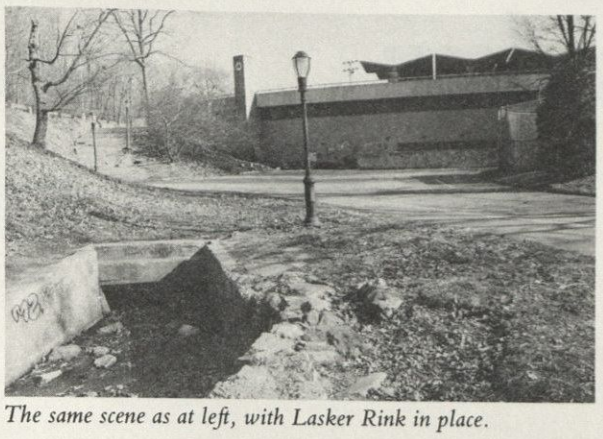
The original circulation system allowed pedestrians to walk on both sides of the Loch. The pathway on the northwestern side was placed slightly upslope, its perspective different from the path on the other side, which followed the stream's edge more closely.

The First 125 Years

Compared with other parts of the Park, the Ravine has been the least disturbed by human beings. Nature, however, was quick to reclaim the Loch. Soil



. . . to meet the Meer.



The same scene as at left, with Lasker Rink in place.

The Loch today: Silted up, the waterfalls are barely a trickle.

from the steep slopes washed into it, turning it into a marshy stream with reeds and stagnant pools. Park managers dug out tons of mud in 1915, and then in 1931 lined the Loch and its banks with large stones in order to prevent further erosion. Today, however, as in 1915, the Loch is filled with a thick bed of silt in which Black Willow trees have been able to take root and grow. The Loch is now just a sluggish trickle.

The one very clear evidence of human activity in the area is the Lasker Pool and Rink, built in 1962 at the south end of the Ravine where the Loch flows into the Meer. The rink was positioned below the Loch directly over an island at the mouth of the Meer; architecturally, it has the appearance of a large concrete dam. Drainage pipes placed under the structure to carry storm water into the Meer periodically clog up with sediment, not being large enough to carry off all the water from the Ravine during heavy rains. The result is occasional flooding, particularly around Huddlestone Arch. Farther upstream, the pools at Springbanks Arch have been filled in and no longer serve as a drain-off for storm water.

Even though copious amounts of topsoil from the upper slopes of the Ravine have been lost, a mature woodland canopy has established itself. On the northwest slope, the tree population has not changed much in composition over the past 50 years. Oaks have declined in number, but they are still the third most common species after the Norway Maple and Planetree Maple. However, self-seeded Black Cherries have taken over the southeast slope, and in the disturbed soil along the 102nd Street cross drive, where dredge material has been dumped over the years, a 16,800-square-foot plot of Japanese knotweed is rapidly spreading.

The pathway system throughout the Ravine has deteriorated seriously. All of the original rustic wood bridges, benches and handrails are gone.

Recommendations

- The beautiful sequence of quiet pools and melodious waterfalls threading through the Ravine—one of Olmsted and Vaux's most sensitive pieces of landscape design—should be restored at least partially. Arguments that reconstruction might adversely affect the wildlife habitat need to be carefully weighed. Compromises can be achieved between a wilderness aesthetic and a managed Park ecosystem. Instead of removing all the willows that have taken root in the Loch, for instance, most of them could be kept while the area around them is deepened and the water area enlarged.
- The walkway system should be reconstructed with narrow asphalt paths that catch water from the surrounding slopes and funnel it into a new catch-basin system. Rehabilitation of the drainage system on the Drive above the Ravine should be done simultaneously, because its runoff directly affects the drainage pattern on the slopes below. The drainage of the area is complicated and should be carefully studied with a view to controlling some of the flooding that now occurs.
- Some parts of the Ravine slopes should be resoiled, and the soil should be kept in place with heavy boulders set into the hillsides and dense shrub and ground cover plantings.
- The rustic bridges, benches and railings should be rebuilt. (Restoration design of the three stone arches is currently under way.)
- The entire Ravine landscape requires good forestry management. The number of self-propagating maples and cherries should be reduced, and oaks, beeches, hickories, sweet gum and tulip trees increased. Evergreens should be introduced along the Winter Drive.
- The relocation of Lasker Rink, which now blocks one of the Park's major drainage corridors and impedes the movement of pedestrians into and out of the Ravine, should be considered.

"The beautiful sequence of quiet pools and melodious waterfalls threading through the Ravine…should be at least partially restored."

The East Meadow

"The East Meadow is for the most part an open lawn punctuated by rock outcrops and some of the Park's most stately trees."

The East Meadow is for the most part an open lawn punctuated by rock outcrops and some of the Park's most stately trees. Its terrain is bowl-shaped; the northern portion is steeper and rockier than the pastoral southern section.

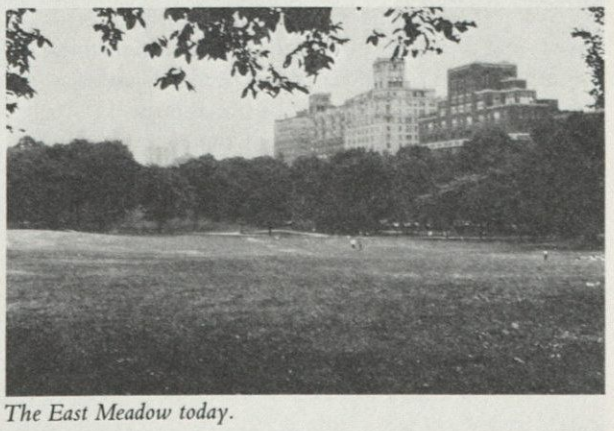
The original Greensward Plan envisioned this area—bounded by Fifth Avenue, the East Drive, the 97th Street transverse and 102nd Street—as part of an arboretum that was never built. It became a meadow instead and was planted with beeches, oaks and honey locusts, some of which grew to magnificent proportions.

The East Meadow has remained essentially unchanged over the years. There is one noticeable difference, however, and that is in the expansion of its tree population. In the 1934 tree count, a total of 278 trees of six-inch caliper or greater were found on the East Meadow. There are now 392. The distribution of species has also changed. In 1934, Black Cherries accounted for only 3 percent of the total stand; today, they represent 26 percent. Meanwhile, other species have decreased—elms from 33 percent to 15 percent, oaks from 13 percent to 12 percent and beeches from 8 percent to 3 percent. Inasmuch as Black Cherries are self-seeding and invasive, their vastly increased numbers is not a positive trend.

The meadow's expanse of green lawn receives heavy athletic use by school groups, and as has happened elsewhere in the Park, the soil has become compacted and bare. In combination with the bowl-shaped landscape, this condition results in frequent flooding; after a rain, a pool of water is often left standing here. The steeper sides of the meadow are popular for picnics and sunning. The playground at 100th Street, however, is seldom used. Children and parents seem to prefer the lawn.

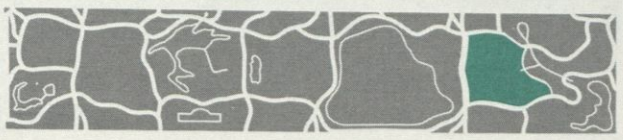
Recommendations

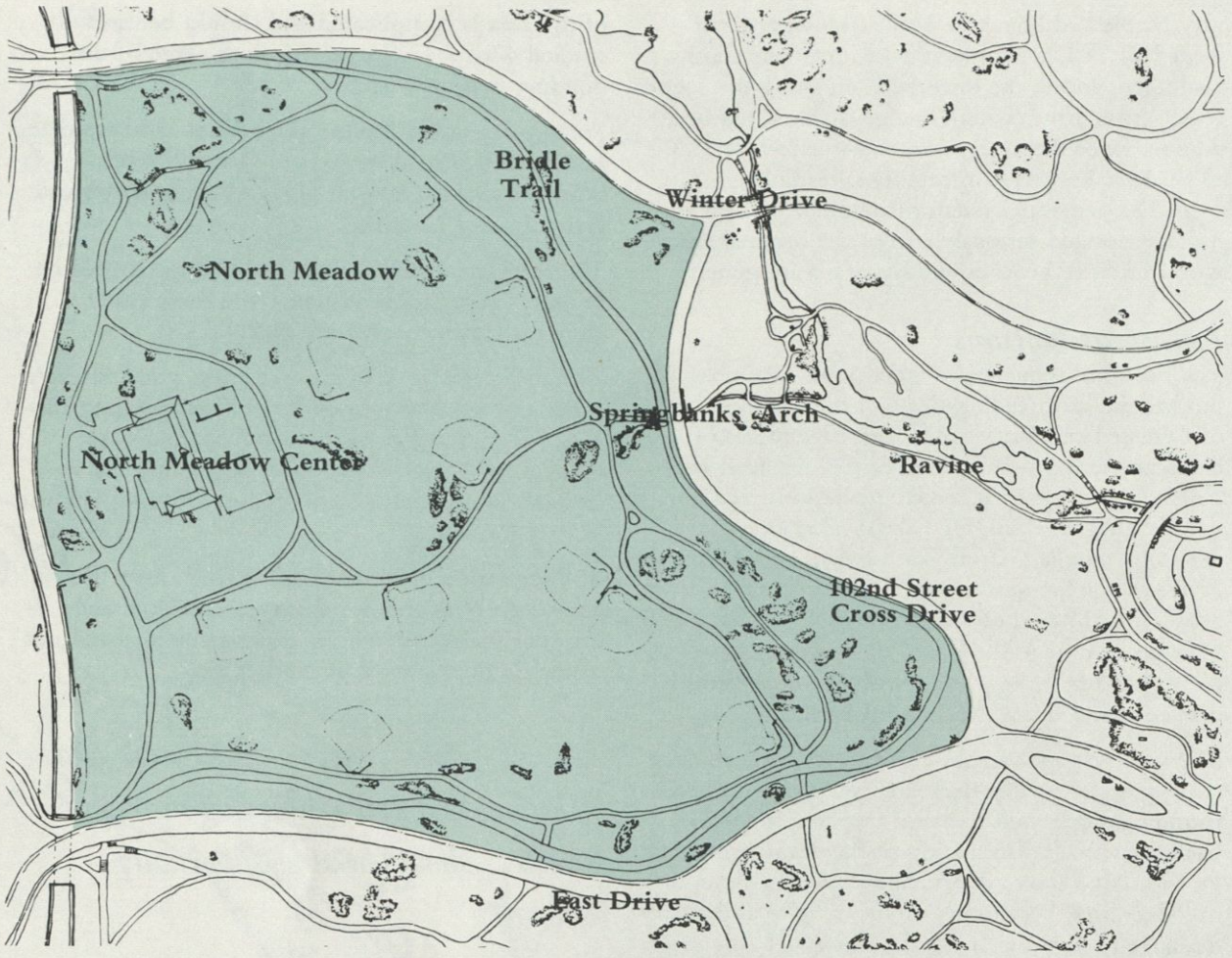
- The lower part of the meadow should be slightly regraded to promote better drainage.
- The paths and steps set into the upper slopes should be rebuilt. Some Black Cherry trees should be removed in order to allow for the replanting of shrubs and lawns. In particular, the erosion on the slope toward the 102nd Street Drive should be controlled through new planting. At the same time, the number of paths should be slightly reduced, and paths created by pedestrian shortcuts should be removed in order to maintain the broad rolling-meadow character of the area—one of the most beautiful in the Park—as much as possible.
- The underused playground at 100th Street should be removed and its site reincorporated into the greensward.
- Athletic use of the area should be allowed to continue, but it should be more closely monitored and regulated to prevent damage to the new turf. On wet days, ball games should be prohibited.



The East Meadow today.

The North Meadow





The 19-acre North Meadow is the largest of Central Park's open meadow spaces. Originally, the landscape was a barren plateau that lay between the marshes of Harlem Creek and the plot of land staked out for the new Reservoir. Olmsted and Vaux set to work transforming it into a pastoral meadow.

The clearest indication of how well they succeeded can be seen in the words of the landscape architect and Superintendent of the Park Samuel Parsons. In 1891, Parsons wrote of the North Meadow, "It is a wonderful effect. . . . The sheen of the grass, the varied tints of the foliage sweeping the turf. . .the low-lying hillocks crowned with large forest trees, the great boulders entirely exposed or only half submerged, the meadow beyond running back to seemingly unknown distances. There is dignity, there is breadth, repose. . . . It is genuine park scenery. . .one of the best examples we have of good park work."

In his lengthy and glowing description, Parsons mentions that this former tableland had become not only a rolling meadow but one that was "ridged up in long mounds at places," somewhat like "headlands left unlevelled." There was not, he said, a level spot in the whole meadow.

The meadow Parsons admired no longer exists. Decades of heavy athletic use—including croquet, lawn tennis, cricket, football, baseball and softball—have taken their toll. The rolling turf was flattened long ago to accommodate the ballfields.

The unbroken sweeping vista has been cut up with hurricane fences, chain-link backstops and asphalt paths. The effect of an endless meadow with a subtle, undulating border has been destroyed by a dense perimeter wall of trees. The sheen of the grass is but a distant memory; as long ago as 1927, the landscape architect Herman Merkel, in making his report on the condition of the Park, said of the North Meadow, "It cannot longer be called a meadow or lawn by any stretch of the imagination."

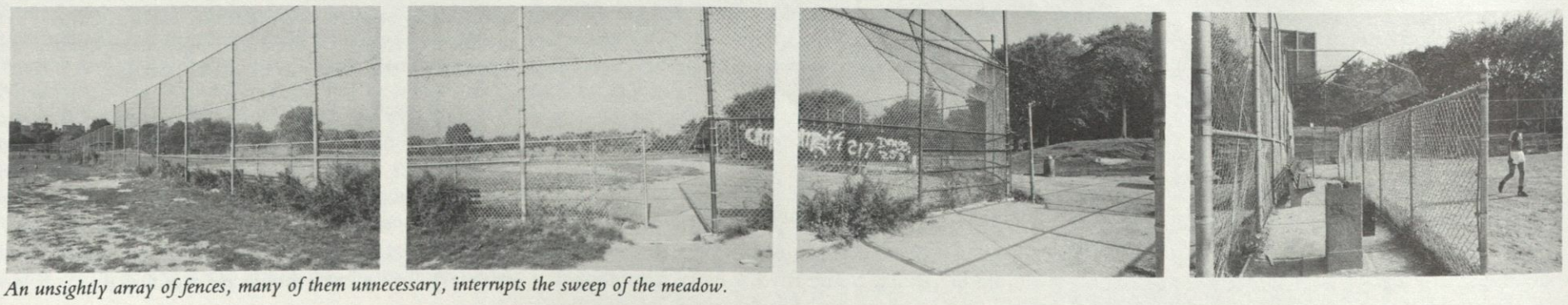
Today, the North Meadow has 7 baseball fields, 5 softball fields, 6 handball courts and concrete bleachers at the west side. These facilities get almost constant use. Baseball leagues use the diamonds during the season; public and private schools are in evidence from early morning until dusk for gym classes and intramural sports. All of these activities require Parks Department permits, but, unlike the Heckscher Ballfields, play occurs on the North Meadow regardless of ground conditions.

Goal:

To re-create as much of the pastoral landscape as possible while still accommodating a heavy program of sports.

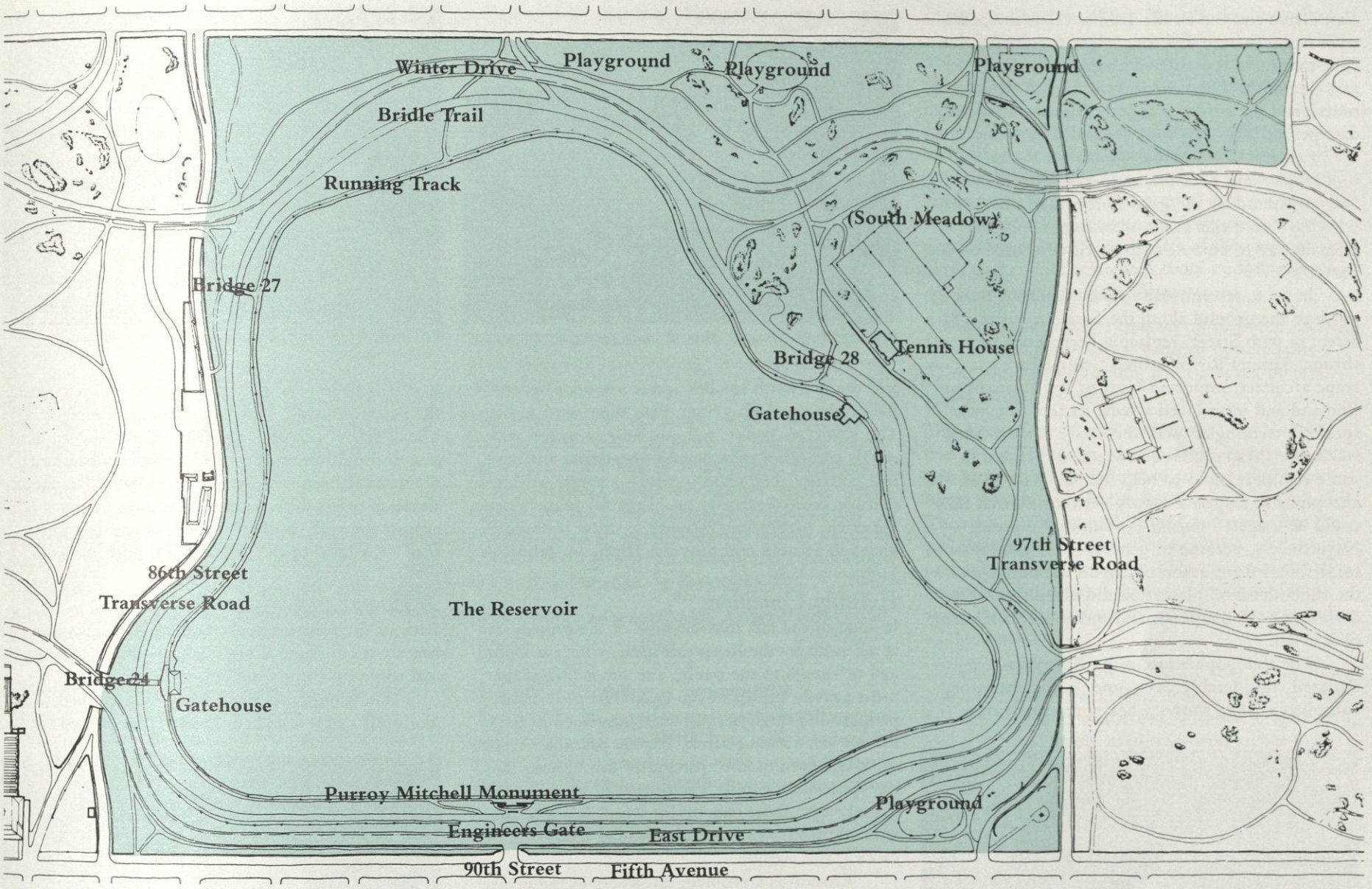
Recommendations

- The meadow should be regraded to restore at least some of the rolling topography. This may require repositioning some of the ballfields.
- Innovative techniques will be needed to ensure that the grass survives the impact of sports in all kinds of weather. On the technical level, this means using an improved "tough turf" grass mixture and constructing a new drainage system.
- A double-grade drainage system is recommended. Recently developed, this system consists of an interaction between two layers of soil: surface and subsurface. The surface soil has a high coarse sand content; it is very porous and quick-draining. The subsurface layer underneath is compacted. It catches the moisture as it filters down and passes it off through a network of perforated pipes. What makes this system unusual, and versatile, is that in dry weather the subsurface drainage pipes can be closed off so that the water is held by the compacted layer of soil like a subsurface reservoir, preventing the surface layer from drying out. This particular soil structure encourages deep roots, which in turn enable the grass to stand up better under hard use. It also promotes healthier grass that is less prone to disease and infestation by pests.
- Durable turf should also be achieved through effective management. The management program now in effect at the Heckscher Ballfields should be implemented in the North Meadow as well: that is, at the end of the playing season, the field is aerated, limed, fertilized and overseeded; and the fields are closed completely for a period of 7 months to give them a chance to rest, recover and regreen. This procedure requires the increased presence of Urban Park Rangers and the Park Enforcement Patrol.
- Unnecessary fences and the inoperable floodlights should be removed. Where fencing is necessary for backstops, unobtrusive black-clad vinyl should be used instead of the bare metal chain link.
- The indistinct edge of the meadow, evocative of a limitless greensward, should be re-created by loosening the configuration of the perimeter tree line. In some cases this will mean thinning a dense stand of trees, but in others it will mean bringing a cluster of trees forward into the meadow itself.
- Pedestrian paths should be simplified and redesigned to be more compatible with the gently rolling topography. For instance, the path striking straight across the meadow to Springbanks Arch should be rebuilt in a graceful curve.
- Springbanks Arch itself should be restored—its drainage repaired, plantings renewed and lighting installed—so that it can once again serve as a link between the sunny North Meadow and the shaded woodland of the Ravine to the north.
- The portion of the Winter Drive along the western edge of the North Meadow should be restored by the addition of various evergreens, such as pines, azaleas, winterberry and cypress.
- The section of the Bridle Trail that traverses this area should be restored.



An unsightly array of fences, many of them unnecessary, interrupts the sweep of the meadow.

The Reservoir and The Upper West Walkway



The Reservoir is the largest single landscape feature in Central Park. Together with the land around it (from the West Drive to Fifth Avenue, between 86th and 96th streets), it forms a zone of separation between what Olmsted called the Upper and Lower parks.

The Reservoir was built in 1862, when the original Croton Reservoir (now the Great Lawn) became insufficient to serve the water-supply needs of the city. Its curvilinear shape is largely due to the persuasiveness of the man who was then the engineer of the new Park, Anton Viele. Viele argued that the new reservoir should not be rectangular like the old one but should have a more graceful and natural form.

In spite of this aesthetic gesture, the Reservoir posed problems for the designers Olmsted and Vaux. It filled so much of the Park from side to side that it was a virtual barrier to north-south traffic. To the east, between the Reservoir and Fifth Avenue, there remained only a narrow, 200-foot-wide strip. That space was developed to include a pedestrian path, the Bridle Trail and a carriage drive, all of which ran in straight lines. The drive was flanked on both sides by double rows of trees, which gave it a formality similar in character to the Mall. The north and west sides were not as constricted as the east side, and so provided opportunity for some open meadow spaces. The South Meadow (to the north of the Reservoir) was used for lawn tennis but could be returned to pastoral scenery simply by removing the nets. The west side was horticulturally a part of the Winter Drive and was a composed sequence of evergreens (mostly conifers) and open spaces.

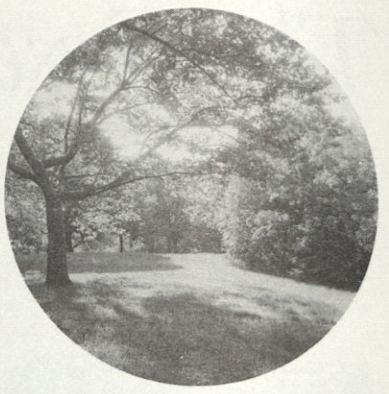
According to the 19th-century historian Clarence Cook, the pedestrian walkway around the Reservoir provided an "admirable 'constitutional'" in the early days of the Park. It afforded a fine breeze, dancing waves and a setting for beautiful sunsets. Three cast-iron arches (Bridges 24, 27 and 28) were built to carry pedestrians over the Bridle Trail to the walkway, and two ornamental stone gatehouses were constructed—one at the north shore, where water entered the Reservoir, and one at the south, where it exited to the gravity-fed city water system.

The Reservoir, circa 1940, with the surrounding landscape more open and visible than it is now.

Change

By 1903, the East Drive along the Reservoir embankment was being called "the most popular drive in this country." At the time, however, the entrance at East 90th Street provided only carriage access to the Park. The Upper East Side had become densely populated since the Park was built, and the increasing numbers of pedestrians using this entrance found themselves having to cross both the

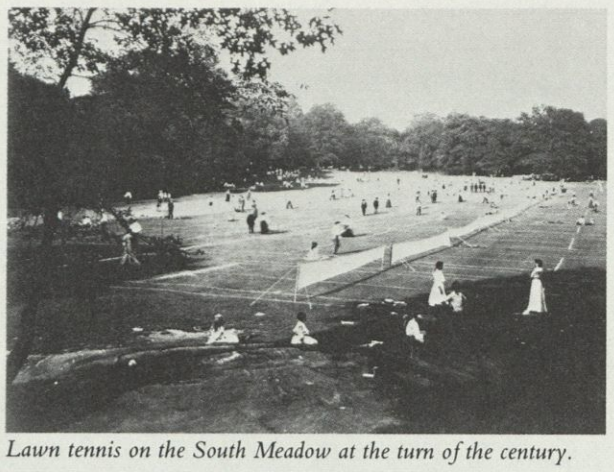
"A major traffic conflict occurs at Engineer's Gate (East 90th Street), where runners, pedestrians, equestrians and vehicles all crisscross one another."



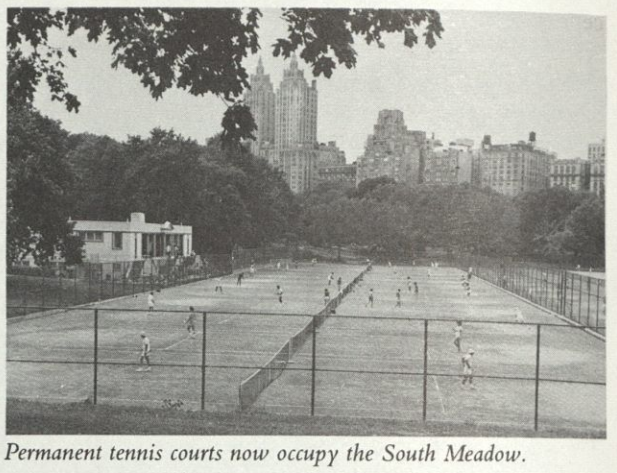
East Drive and the Bridle Trail to reach the pedestrian path. To ease this congestion somewhat, the Park managers constructed a new walk along the east side of the Drive from 85th to 98th streets and redesigned the entrance at 90th Street to accommodate pedestrians. The 1903 Annual Report described the project as difficult to engineer because of the topography and trees but well worth the effort, "demonstrated by the great numbers of pedestrians who have used this point of vantage on every pleasant day to enjoy the spectacle presented on the East Drive."

In 1908, ten thousand rhododendrons were put into the ground along the East Drive from 85th Street to 97th Street, replacing herbaceous beds and shrubs. Samuel Parsons, then Central Park's landscape architect, imported most of the plants from England and introduced a wide variety of exotic species intermingled with the native *Rhododendron maximum*. Parsons added new soil and mixed in some rich peat mold to help the plants flourish. He also piped in a special supply of water so that they could be irrigated during the summer months. Nevertheless, because of general site conditions and toxic fumes from automobiles on the East Drive, the rhododendron plantation did not thrive. It has dwindled over the years, and today only a remnant of it is left.

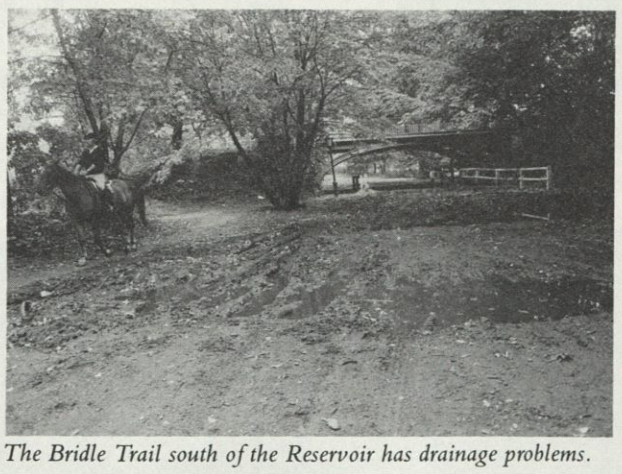
The tree population in the Reservoir area changed considerably over time. A tree inventory compiled in 1873 shows a heavy representation



Lawn tennis on the South Meadow at the turn of the century.



Permanent tennis courts now occupy the South Meadow.



The Bridle Trail south of the Reservoir has drainage problems.

along the West Drive of evergreens, cedars, junipers, pines—all in great profusion. However, by 1934, when another survey was done, the Winter Drive had only a few scattered pines, while the population of oaks, cherries and maples had surged dramatically. On the south side, along the Bridle Trail, Turkey Oaks (*Quercus cerris*) are shown on both the 1873 and 1934 surveys; and today many of these survive as venerable specimens, together with the numerous large beeches.

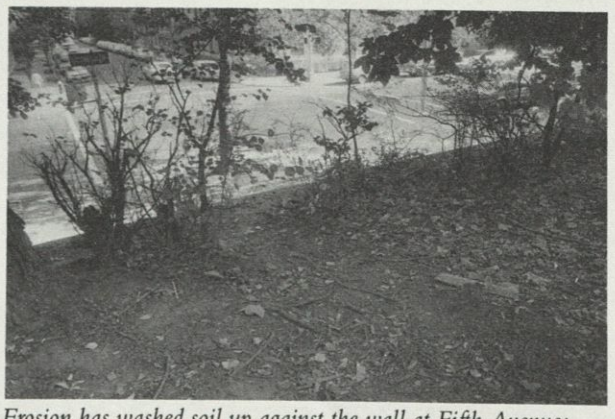
The 1934 survey also indicates the same composition of sycamores, elms and maples, with symmetrical plantings of ornamental cherries on either side of the new John Purroy Mitchel Monument. But the meadow area to the north has suffered a substantial loss of tree variety. What used to be an assortment of maples, elms, oaks, ginkgos and sycamores has now become a forest of spindly wild cherries. Much of the meadow itself has disappeared and has been replaced by tennis courts. The original grass courts were replaced in 1912 with dirt courts, which were improved in 1914 and made permanent in 1929. The Tennis House was completed the next year and was, in the estimation of the authors of the Annual Report of 1930, "probably the finest tennis house in any public park in this country."

One important change throughout the project area has been the development of a more extensive tree canopy, with smaller and fewer open spaces for sunning and picnicking than there used to be. The Reservoir banks, too, are now crowded with weeds and other spontaneous vegetation and have lost much of their open quality—a visual closing-in that has created security problems for joggers using the track, particularly women, because it obscures views in and out and provides blinds for criminals.

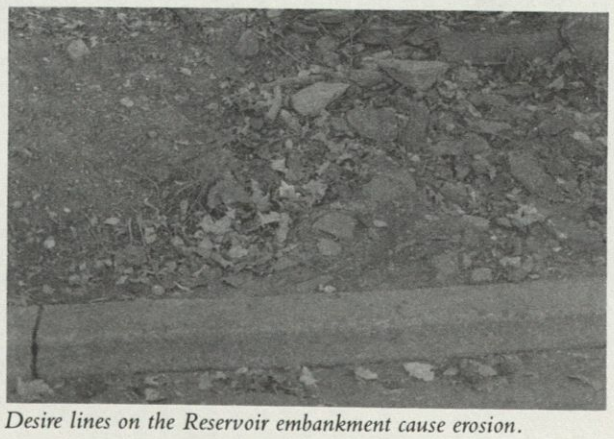
Existing Conditions

In spite of the fact that the bulk of the project area is taken up by the Reservoir itself, which is fenced and off-limits to the public, the site is one of the most heavily visited in the Park. The pedestrian path around the Reservoir was resurfaced in 1982 for use as a running track. For the past ten years or so, it has been used continuously throughout the day quite successfully, except that runners frequently take short cuts up the steep slopes of the embankment, wearing away ground cover and causing soil erosion.

Erosion is a problem elsewhere in the project area, too. The Bridle Trail is badly worn away where it connects with the North Meadow loop on the east side; its Telford rubble base is now exposed, and little soft surface remains. The most visible and potentially grave erosion in the area, however, is at the Park perimeter between the East Drive and the wall. Dense shade, the cumulative effects of age and lack of horticultural maintenance have created a bare ground plane. Surface runoff from the pedestrian path washes soil down against the perimeter wall, where the increased weight heaves stones out of alignment. Water has begun to seep through the wall in places where subsurface drains have broken down. A potentially dangerous situation exists here, because the soil pushing against the wall on the Park side is considerably above the level of the sidewalk on Fifth Avenue.



Erosion has washed soil up against the wall at Fifth Avenue; water leaks through the wall to the sidewalk below.

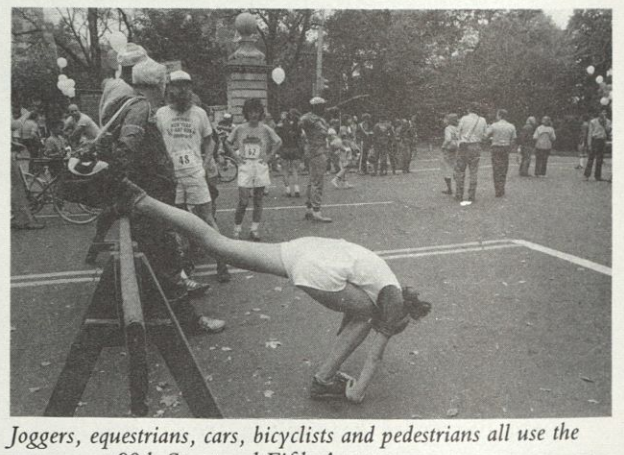


Desire lines on the Reservoir embankment cause erosion.

A Busy Sector of the Park

Each of the features in the Reservoir project area is heavily used, some more efficiently than others, and some by competing constituencies.

The tennis courts are extremely popular, but like most single-use facilities, they lie unused for

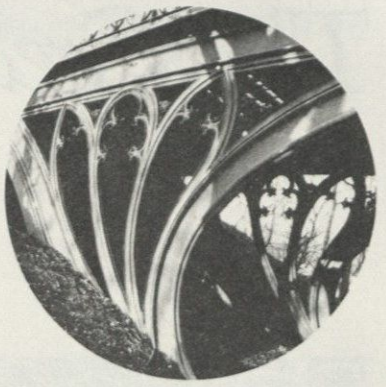


Joggers, equestrians, cars, bicyclists and pedestrians all use the entrance at 90th Street and Fifth Avenue.

part of the year. The pedestrian path around the Reservoir is so dominated by joggers that the entrance at East 90th Street has been nicknamed "Runner's Gate" (its historic name is Engineer's Gate). Some pedestrians who want to stroll around the Reservoir for a look at the view complain that it is a daunting experience with joggers constantly jostling past them in both directions. The Reservoir loop is the most heavily used portion of the Bridle Trail, because it is broad, flat and in better (albeit deteriorated) condition than elsewhere. In addition, the commercial riding stable serving the Park is on West 89th Street, which makes this part of the Bridle Trail the most easily accessible. The walk along the East Drive is an important and much-traveled part of the north-south pedestrian circulation spine. Motor vehicles use the Drive here with frequency; taxis exit at 90th Street during all hours.

A major conflict involving all of this traffic occurs at Engineer's Gate (East 90th Street), where runners, pedestrians, equestrians and vehicles all crisscross one another. Runners and pedestrians frequently use the Bridle Trail against Park rules, creating a hazard for themselves and those on horseback. Runners warm up and cool down anywhere they can find the space at East 90th Street, often on the Bridle Trail's straightaway, where horses are likely to be moving quickly (although galloping, too, is against Park rules). With the ex-

"The present long-term plan envisions redesigning the Reservoir as an attractive, natural-looking lake."



ception of Bridge 24 (at the South Gatehouse), the cast-iron bridges designed to take pedestrians over the Bridle Trail are so placed that they are seldom used now and have become little more than beautiful artifacts. (Numbers 27 and 28 were recently restored; number 24 is in great need of repair.)

Goal:

To increase the beauty, utility and security of the Reservoir area through the reinstatement of its horticultural and spatial integrity.

Recommendations

- The security of the Reservoir should be improved by the removal of the high, thick, concealing plants that surround it. These should be replaced with low-growing shrubs and ground covers that would allow runners a more open view while performing the vital function of holding the soil in place.
- The firs and conifers should be restored along the Winter Drive on the west side.
- The Fifth Avenue perimeter should be selectively thinned and grubbed. Soil behind the wall must be excavated, new drainage lines installed and soil replaced. New soil should be added elsewhere where necessary, and the perimeter area replanted with shrubs and understory trees.
- The remains of Samuel Parsons's Rhododendron Mile should be replaced with shrubs and ground covers more compatible with the existing ecosystem and overstory canopy. Erosion caused by drainage from the Bridle Trail above should be corrected first, the gouged-out gullies resoiled and replanted.
- The entire Reservoir loop of the Bridle Trail should be completely rebuilt, including a new drainage system and surface material.
- The confusion at the East 90th Street entrance should be resolved with better articulation of the various routes and directional signs. There should be a new, clearly marked runner's warm-up area between the Bridle Trail and the Drive. A horses-only safety policy for the Bridle Trail should be enforced by police and Park Enforcement Patrol rangers. A low fence should be erected at the outside edge of the Bridle Trail to separate horses and pedestrians and to discourage the reappearance of desire lines.
- The Tennis House and courts should be repaired, and the severe drainage problems that cause flooding on the courts should be corrected. Since many of these drainage problems originate on the Reservoir Bridle Trail, this restoration project should proceed simultaneously. A second option would be to study the feasibility of moving the Tennis House to a spot less affected by drainage.
- Slopes should be planted and overseeded to curtail erosion.

A Future Planning Opportunity

The most exciting design and management opportunity facing this area in the long term involves the future of the Reservoir itself. Like the old Croton Reservoir, this Reservoir will, in the not too distant future, be obsolete. When New York City's third water tunnel is completed, a holding basin in Central Park will no longer be needed. Then the Reservoir will be turned over to the Department of Parks and Recreation.

Although the old reservoir was filled in to form the Great Lawn, the present plan envisions keeping this Reservoir as a body of water and redesigning it as an attractive, natural-looking lake. The shoreline could be made more irregular and soft-edged than it is now, and parts of the artificial berm that rims it at present could be lowered to create a more naturalistic littoral.

The 106 acres of water opened up to public use will offer an abundance of recreational opportunities. There could be swimming from a beach or pier, sailing or wind-surfing.

One long-range plan envisions the possible relocation of the Delacorte Theater from its present location in front of the Belvedere to a newly created island or peninsula in the Reservoir. (See page 71.) The new setting would be less confining than the present one and would offer a number of dramatic possibilities. The design and placement of the theater could, for instance, include picnicking lawns along the water and a view of the midtown skyline to the south.

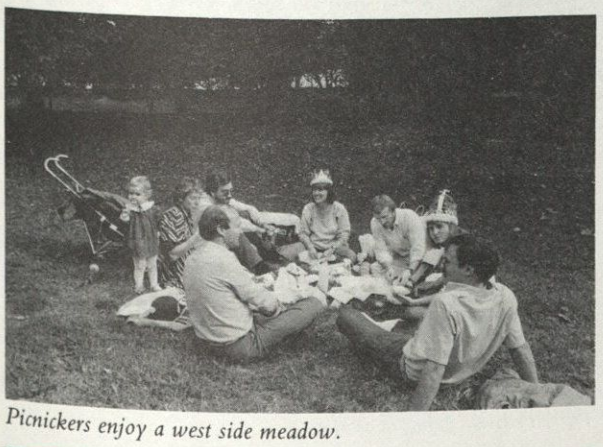
Designers planning for the future uses of the Reservoir should site the theater, boat landings or other features on routes connecting with the magnificent, and at-present barely used, cast-iron arches that span the Bridle Trail.

The Upper West Walkway

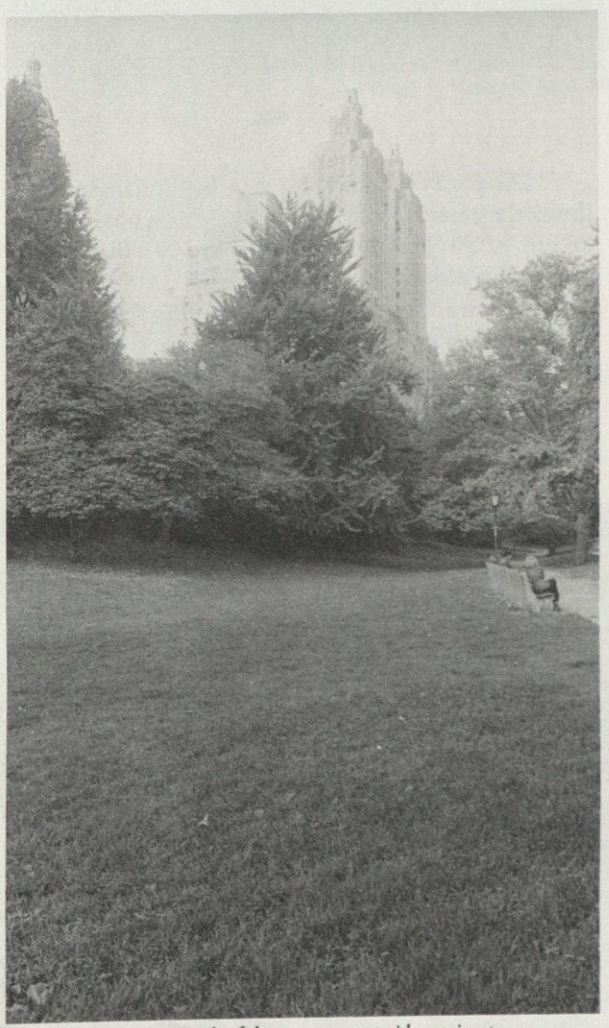
The narrow undulating landscape along the western edge from 86th Street to 100th Street is particularly interesting because it contains some of the most beautifully sculptured landforms in Central Park. Its rolling lawns and meadows are ribboned with curving paths that disappear behind knolls and then reappear.

Because the West Drive in this section was part of the Winter Drive, Olmsted and Vaux banked it with pines and other evergreens set off by a counterpoint of white birches. Today, only 3 percent of the trees are pines; 20 percent are the prolific self-propagating Black Cherry.

Between 1935 and 1938, no fewer than four playgrounds were built in this area of the Park—at 91st, 93rd, 96th and 100th streets. Today, only those at 93rd and 100th streets are heavily used. Neither the playground at 91st Street, which is badly sited on top of a hill, nor the playground in the triangle created by the entrance and exit of the transverse road are as popular.



Picnickers enjoy a west side meadow.



Rolling terrain, typical of the upper west side perimeter.

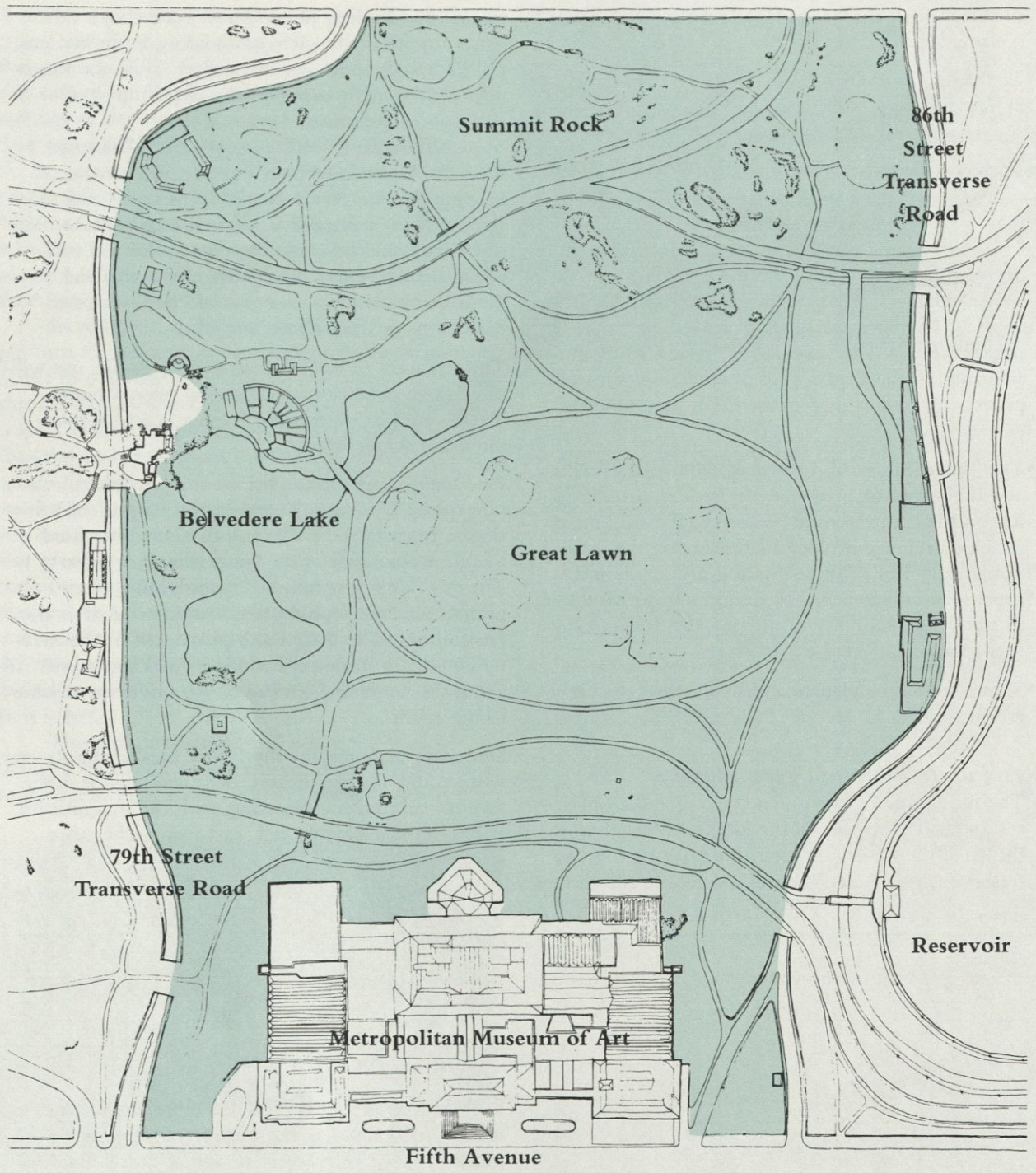
Strollers, picnickers and sunbathers are the most typical users of this perimeter strip. The meadow from 86th Street to 88th Street is used for active sports and has a large bare patch of compacted soil to prove it—the one unsightly element in an otherwise green landscape.

There are circulation problems created by poor design at one entrance, competition between horses and pedestrians at another and the lack of any clear routes leading to the Reservoir running track, a major destination for Park runners.

Recommendations

- The Winter Drive should be restored by planting additional evergreens.
- The meadow at 86th Street should be regraded to improve its drainage. It should then be resoiled, seeded and carefully managed to prevent further abuse.
- The entrance at West 88th Street, added in recent years and poorly designed, should be closed. A new handicapped-accessible entrance should be opened between 86th Street and 87th Street, where the grades are gentler.
- The entrance to the Drive at 90th Street, where there is now competition between cars and horses, should be closed to cars and reconstructed as an equestrian path leading to the Bridle Trail. New pedestrian paths should be built to take people from perimeter entrances to the Reservoir running track.
- The reconversion of the underutilized playgrounds into parkland should be studied.

The Great Lawn



The Great Lawn is an almost flat open space of some 15 acres in the center of Central Park. It is the largest single feature that was not part of Olmsted and Vaux's original design, and there is no way it could have been. It stands on the site of the old Croton Reservoir, a huge, high-walled rectangular structure that had to be incorporated in the original Greensward Plan because it was a functioning part of Manhattan's water supply at the time.

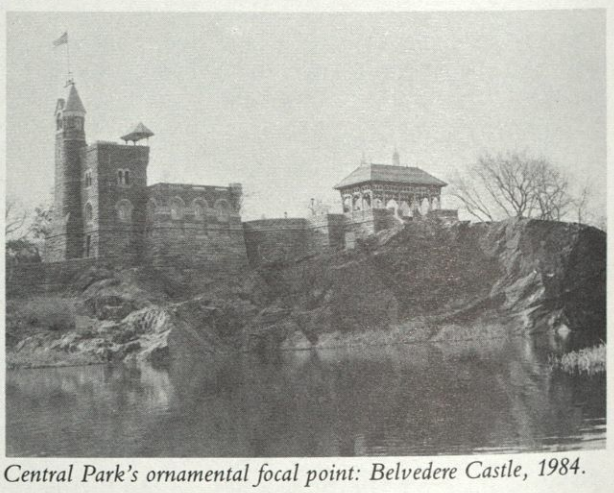
Olmsted made no secret of his unhappiness about the reservoir. "[It] occupies the whole of the middle of the Park," he wrote, "and is a blank, uninteresting object that can in no way be made particularly attractive." The reservoir, together with a "new" reservoir to the north that was contemporary with the Park's construction and that still exists, interrupted the flow of the landscape and effectively divided the Park into upper and lower sections. Olmsted and Vaux sought to ignore the reservoirs, pretending they didn't exist by aligning north-south pedestrian paths in such a way as to bypass them and draw the eye away from the high stone walls.

When the old Croton Reservoir was dismantled and filled in to make the Great Lawn in 1934, the sense of a divided Park was somewhat lessened. But the site's isolation from the rest of the Park's circulation system was never adequately redressed, and pedestrian access to the Great Lawn remains a major problem today. Since continuity between the Great Lawn and the surrounding landscape is still an objective to be achieved, the peripheral borders are included in the Great Lawn project area, which encompasses the entire width of the Park between the 79th Street and 86th Street transverses.

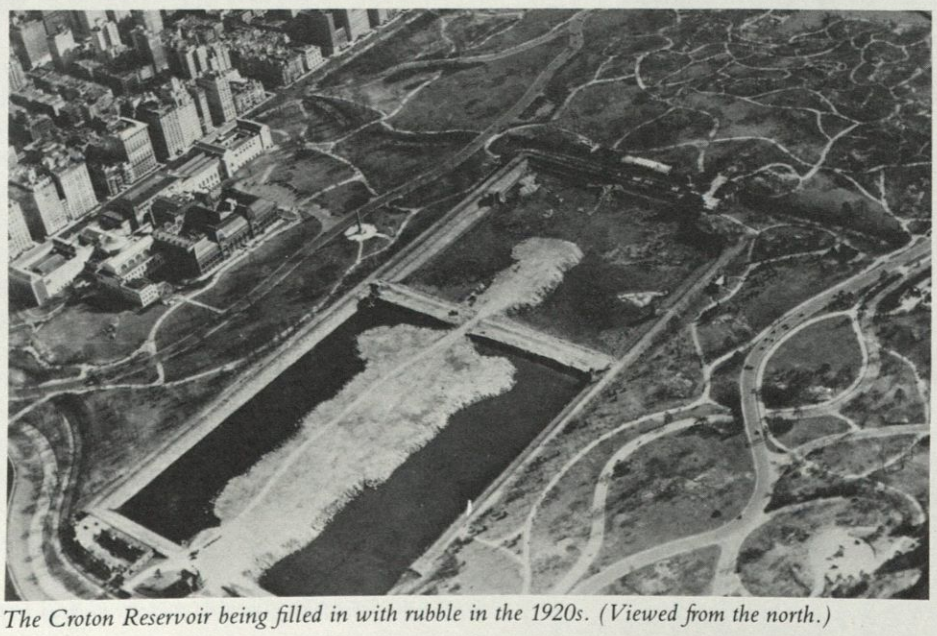
When the old Croton Reservoir was turned over to the Parks Department by the Department of Water Supply in 1929, numerous proposals were submitted for how to use the space. The plan ultimately put into effect by Parks Commissioner Robert Moses in 1934 called for a central Beaux Arts oval lawn with a small lake (Belvedere Lake) at the south end. At the north end, there were two large children's playgrounds, and the rest of the area consisted of landscaped walks, shuffleboard, croquet and lawn bowling. The oval lawn was closed to the public to preserve the grass.

Moses's plan represented a victory for those who were determined to prevent conversion of the area into extensive athletic fields, but it was a temporary victory. There are now a half dozen ballfields with backstops on the lawn. And since the restoration of the Sheep Meadow in 1979, the lawn has been used as the site for large outdoor concerts that attract over 100,000 people.

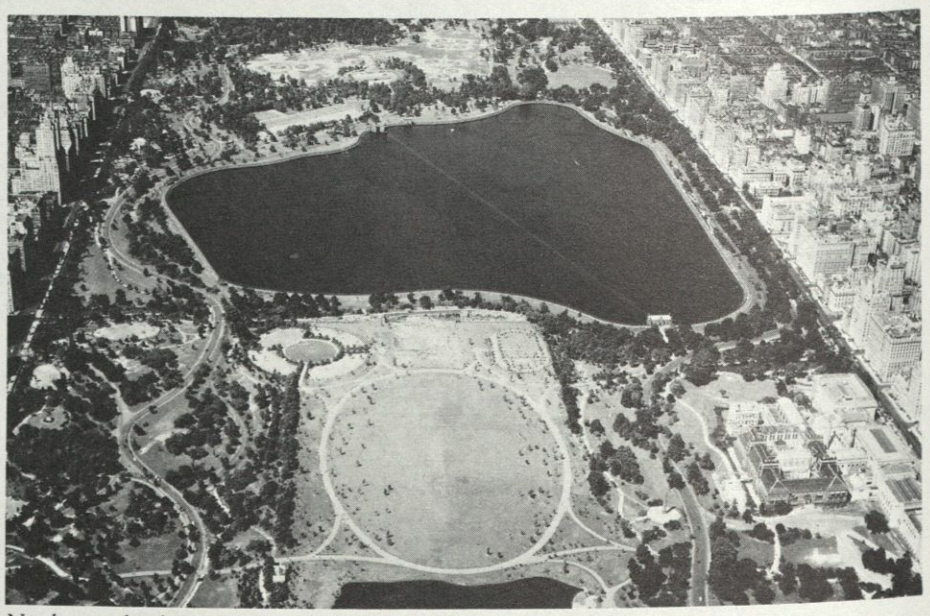
The space, despite its problems, is one of the few great, dramatic open plains in New York. In



Central Park's ornamental focal point: Belvedere Castle, 1984.



The Croton Reservoir being filled in with rubble in the 1920s. (Viewed from the north.)



Newly completed Great Lawn in 1937. (Viewed from the south.)

"The chief erosion factor is not the concerts but the intensive athletic use of the Great Lawn, which has turned it into a hardpan desert."

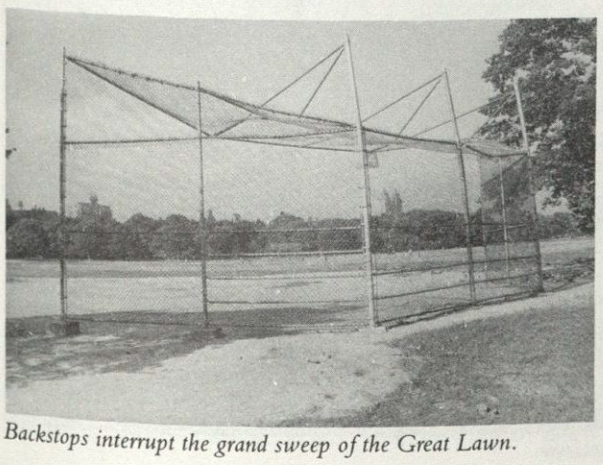
The Great Lawn and the edge of Belvedere Lake, seen from the Castle. A mixture of active and passive users: picnickers, strollers, ball players.

one corner, Belvedere Castle romantically perches on the top of a steep rock outcrop that rises from the water surrounding it. On the east, west and south rise the towers of New York; on the north, the horizon appears limitless because of the unbroken sky. Some of the Park's best specimen quality trees surround the oval. But the Great Lawn and its environs are in declining condition. Some portions of this large Central Park space are unused, others are overused, and design shortcomings reduce both recreational utility and aesthetic quality.

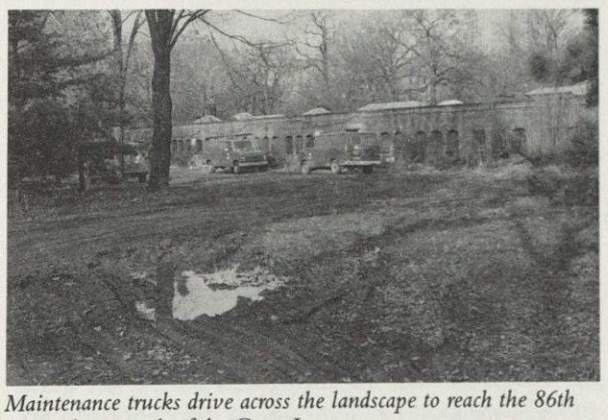
After its construction in 1934, the Great Lawn became a popular user destination—something the area had not been designed for originally. The pedestrian paths, laid out to avoid the new and old reservoirs, have never been properly redesigned to accommodate the flow of foot traffic, particularly the crowds that attend free concerts on the Great Lawn. Pedestrian access to and from the Great Lawn is confusing and inadequate, and lanes of exit are too few and dangerously constricted.

Free concerts by the Philharmonic and Metropolitan Opera as well as popular entertainers on the Great Lawn have become a contemporary tradition that is highly prized by thousands of New Yorkers. But in addition to the management problems these mass gatherings pose, the large number of people who attend them—300,000 at the Elton John concert in 1980 and nearly 750,000 at the Anti-Nuclear Rally in 1982—compact the soil and hasten erosion. Indeed, 34 percent of the ground plane throughout the Great Lawn project area is bare.

The chief erosion factor, however, is not the concerts but the intensive athletic use of the Great Lawn, which has turned it into a hardpan desert. No fewer than 40 permitted baseball and softball games take place on the Great Lawn every day throughout the season, plus uncounted dozens of pickup soccer and touch football games. The eight ballfields are in deplorable condition with barely discernible diamonds and large, visually obtrusive backstops.



Backstops interrupt the grand sweep of the Great Lawn.



Maintenance trucks drive across the landscape to reach the 86th Street shops north of the Great Lawn.

To the north of the oval, the two Moses-era playgrounds have fallen into disuse and disrepair. One has a broken mud-filled wading pool, and the other is also deserted except for two basketball courts that do receive some use. Between the playgrounds, two barren makeshift ballfields contribute to the atmosphere of abandonment. To make matters worse, maintenance and security vehicles scar the northern edge with tire ruts in an effort to achieve a parkside access to the 86th Street shops and the Central Park Police Precinct. Police personnel can then park and gain entry to their facility, located on the transverse road 13 feet below the grade of the Great Lawn, by climbing down a wooden ladder. Park workers can make attic-level deliveries to their building as well as to the attic level of the police precinct, which is currently used as an auxiliary Parks Department shop and storage area.

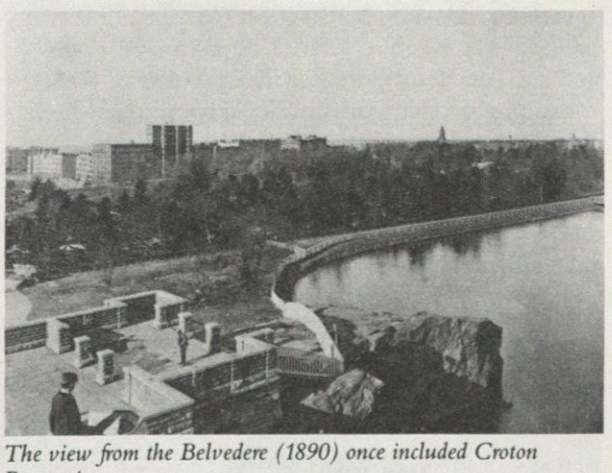
These conditions would not seem propitious for the siting of the Arthur Ross Pinetum, but this was, in fact, the location chosen by the Parks Department in 1971 when Mr. Ross initiated the installation of the conifer collection that bears his name. There are many choice specimens here that, if sited elsewhere or rearranged somewhat, could make a much more striking landscape composition.

The landscape immediately to the south of the oval is a crowded one. Belvedere Lake, less than three acres in area, is bounded on the west by the Delacorte Theater and on the east by the folk-dancing circle and a statue of a medieval king of Poland, Wlayslaw Jagiello. Vista Rock stands at the southwest edge of the lake (it had formed the same edge of the original reservoir), and the Shakespeare Garden and the Swedish Cottage lie at the foot of its western slope.

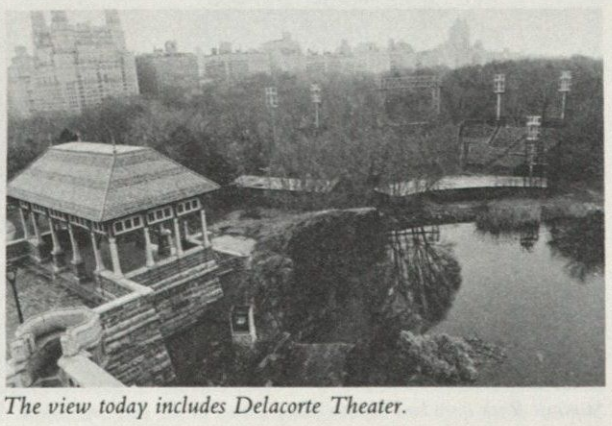
In the early days, a fire tower stood at the top of Vista Rock, but when the Croton Board transferred title to the Parks Department in 1867, Calvert Vaux designed a fanciful Victorian castle to take its place. The castle was constructed mostly out of parent rock from excavations elsewhere in the Park. The United States Weather Bureau set up a weather station in the castle in 1919, but after the introduction of mechanized instrumentation in the 1960s, the building was left unmanned, and it fell prey to vandalism. It was restored in 1982, and two pavilions that had been removed 50 years earlier were rebuilt. At that time, the castle became an environmental education center for children.

Belvedere Castle serves as a picturesque focus for visitors looking south from the Great Lawn. It is also the visual terminus of the northward view from the Mall, its tower visible over the wooded Ramble, perfectly centered above Bethesda Fountain. Unfortunately, the view of the castle from the Great Lawn is substantially blocked from the west by the Delacorte Theater, a 1960 addition to the landscape, and a row of tall poplar trees planted to hide the theater from view.

The shores of Belvedere Lake are a popular gathering spot for picnickers and theater and concert patrons in the summer months. The lake itself is quite small and has none of the naturalistic coves and inlets typical of the Park's older water bodies. Eroded soil from the surrounding lawns washes directly into it, and the accumulated sedimentation has created a hyper-eutrophic condition; the lake is marshy and dying. Nevertheless, and despite its diminutive size, the lake shore is very popular; it is more accessible to users than most other water bodies in the Park. The narrow embankment lawns around it are often filled to capacity with picnickers and sunbathers, hemmed in by sidewalks to the north and south, by the Delacorte Theater to the



The view from the Belvedere (1890) once included Croton Reservoir.



The view today includes Delacorte Theater.

Folk dancing is one of many activities competing for space at the south end of the Great Lawn. An alternate site is recommended.

west and by the folk-dancing area to the east. Because of its popularity, the folk dancing has outgrown the paved area designated for its use. Dancers must continually widen their circles beyond the pavement and onto the lawn.

Further to the east of the Great Lawn, the landscape surrounding the Metropolitan Museum of Art was originally designed as a pastoral meadow dotted with trees. The meadow was linked to the Great Lawn by Greywake Arch under the East Drive. As the museum expanded through a succession of additions over the years, the meadow became smaller and smaller until its general character was quite lost. At the same time, north-south pedestrian circulation became increasingly pinched, and the path traversing this landscape eventually became pinned to the East Drive.

Opposite the museum, the Obelisk, or Cleopatra's Needle, which once stood on the seashore at Alexandria, was installed just west of the East Drive in 1881 after a complicated and sometimes comical diplomatic roundabout between the United States and Egypt. It stands on the southern edge of Hamilton Lawn, a small meadow surrounded by trees framing the statue of Alexander Hamilton, which was erected at the same time as the Obelisk. The Levy Memorial Playground just southwest of the museum was constructed in 1957.

To the west of the Great Lawn lie the Shakespeare Garden and the Swedish Cottage. The Shakespeare Garden, a series of pathways, pools and cascades interspersed with examples of plants mentioned in the works of Shakespeare, was built into the western slope of Vista Rock in 1917. The garden thrives with the help of a group of volunteer gardeners, but its visual relationship to the Belvedere Castle above is unfortunately obscured through poor design.

The wooden-lodge style Swedish Cottage at the foot of the garden was a gift of the Swedish government following the 1876 Centennial Exposition in Philadelphia and was used as a comfort station until 1912, when, because of protests by Swedish-American citizens, it was turned into an entomology laboratory. In 1973, the cottage was renovated a second time and converted into the present marionette theater.

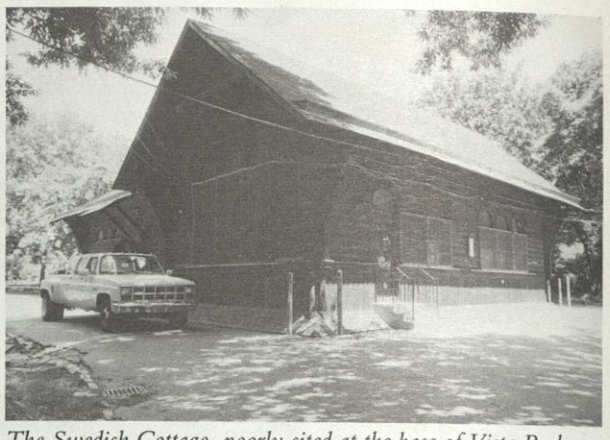
Another feature distinguishes the area to the west of the Great Lawn: Summit Rock, the highest natural point in Central Park, at the westernmost edge of the Park at 83rd Street. Summit Rock once offered a commanding view of the landscape below. Over time, however, the slopes have been so heavily planted with trees that there is no longer any view at all. A children's sand pit and sitting area for mothers was constructed on the top of the rock in the 1930s, but because of its excessively secluded character the area is now unfrequented, and the sand pit lies vacant, the benches around it broken. As for the evergreens planted along the Winter Drive by Olmsted, they have almost all died out.

There are three perimeter playgrounds on the west side of the Park—at 81st Street, 85th Street and 86th Street —all constructed in 1935 in a standard oval shape, 100 feet by 200 feet. The one at 85th Street is largely unused. The 79th Street Yard, a set of low buildings that was originally used as a stable, now houses maintenance and horticultural operations, and there is a sound and well-maintained comfort station next to the Delacorte Theater.

Recommendations

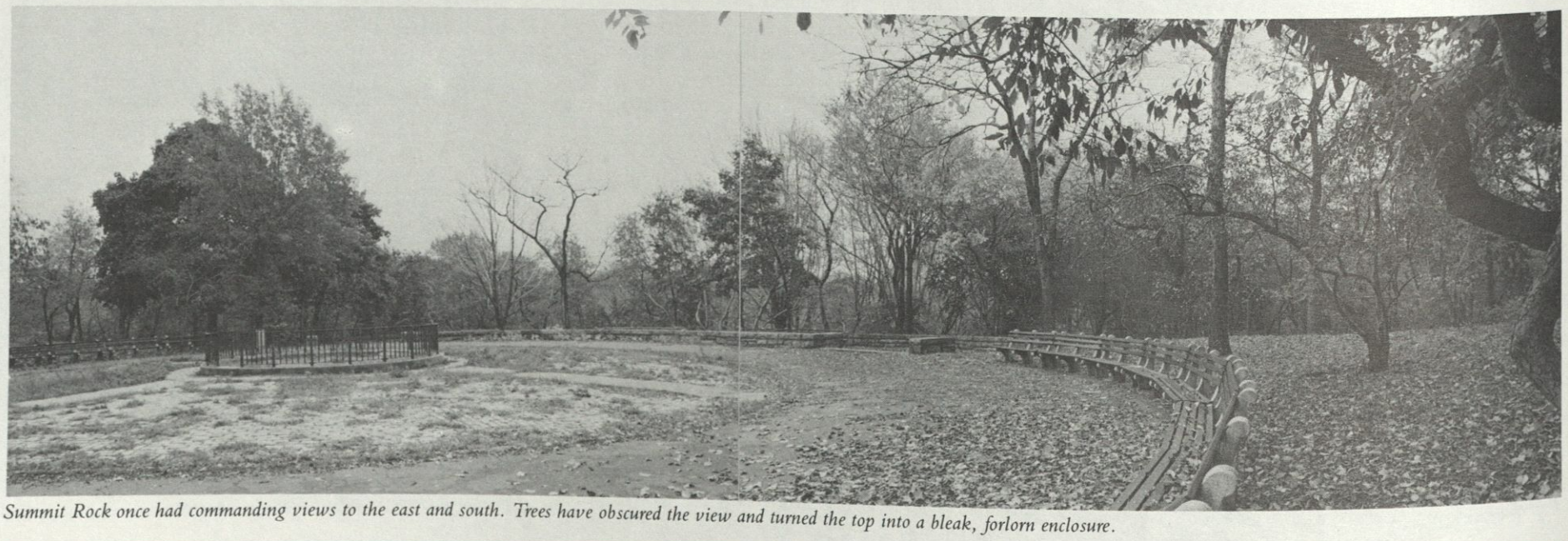
Project Subsector #1: The Great Lawn oval and the North End

- The oval should be enlarged and shifted 200 feet north of its present location. This would double the area available for passive recreation along the edge of Belvedere Lake and allow for enlargement of the lake as well (see maps on opposite page). If the oval is shifted, the ambiguous strip at the north end of the Great Lawn would be incorporated into it, unifying the entire Great Lawn. Eight ballfields should be constructed inside the new oval with clay infields and slightly overlapping outfields. Black vinyl-clad backstops that blend more readily into the surrounding landscape should be used rather than bare metallic cyclone fencing. The outfield turf areas and remaining lawn in the project area should be reconstructed with "tough turf methods" and a resilient grass seed mix. Sodding of the area may be necessary in order to get the playing fields back into use quickly.



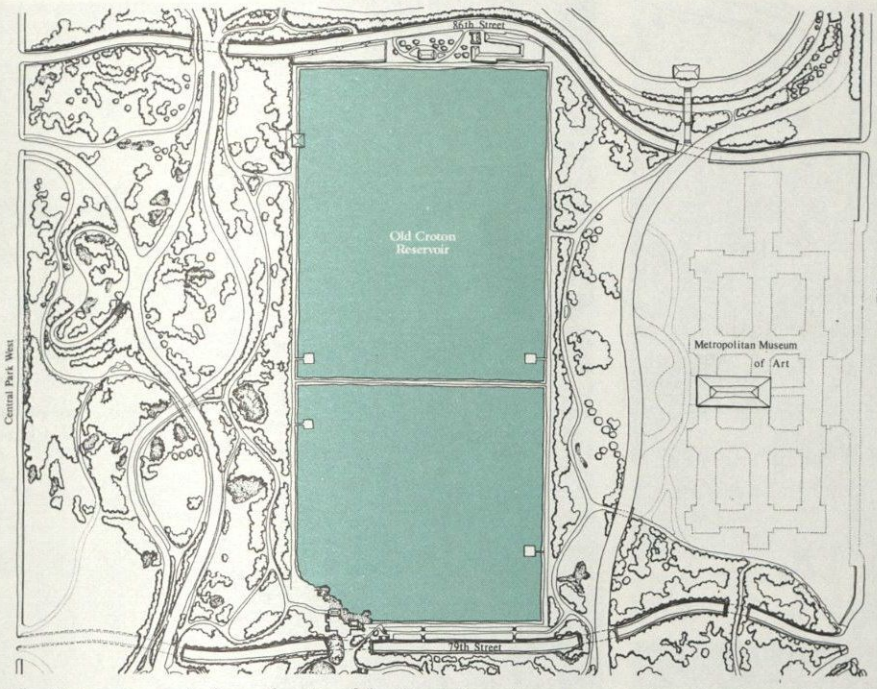
The Swedish Cottage, poorly sited at the base of Vista Rock south of the Great Lawn, should be moved.

- The two playgrounds to the north of the oval should be removed. New walkways, open lawn and shrub plantings along the transverse road edge should be placed there instead.
- East-west pedestrian routes should be realigned to afford better access to the Great Lawn and facilitate cross-park commuting by foot. This would eliminate much of the off-path foot traffic. The paths at the southern end of the oval should be widened slightly to serve as a foundation for a removable concert stage and allow for the necessary truck traffic servicing the outdoor concerts.
- The Arthur Ross Pinetum should be enhanced by the repositioning of the walk traversing it and the relocation of certain trees as well as the planting of new ones to achieve a harmonious well-designed landscape composition. Trees should be labeled in order to instruct the public about the many rare and unusual species in the collection.
- Around the oval, new benches should be positioned similar in number and configuration to the old. Four new drinking fountains should be installed, replacing the one that is there now.
- Management policies for this project area should combine horticultural maintenance with use control. Management of the ballfields should rely on rules similar to the rules that were instituted at the Heckscher Ballfields after their restoration: (a) Play is not allowed during or immediately after a rainstorm; (b) A 24-hour telephone tape message indicates whether the playing fields are in usable condition; (c) Permits are required throughout the season.
- Regarding concerts and other major events on the Great Lawn: (a) Efforts should be made to limit gatherings to a maximum of 100,000 people, and because entrance is free and therefore impossible to control strictly, only those events likely to attract a local Manhattan audience rather than a regional au-

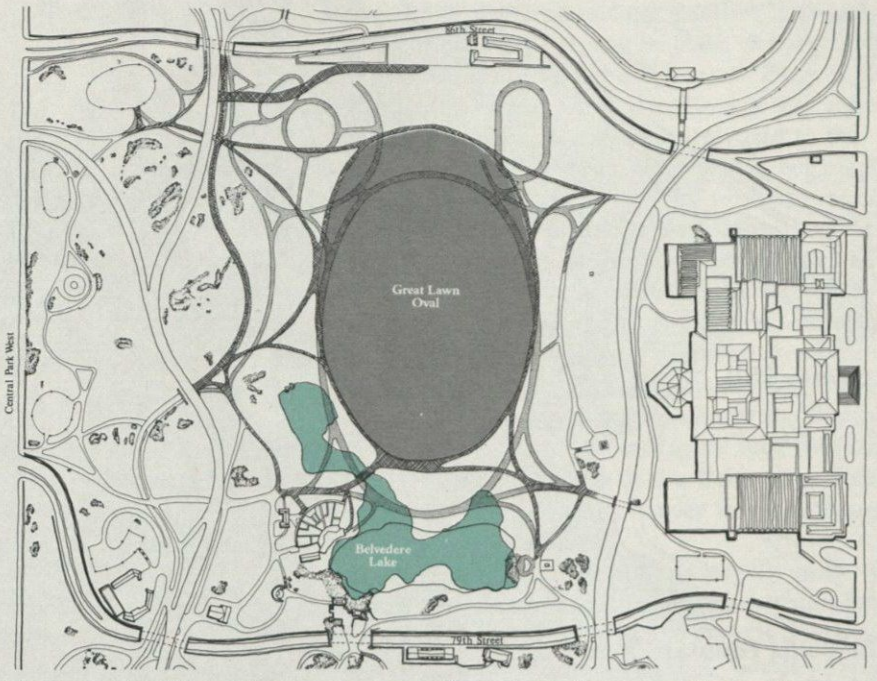


Summit Rock once had commanding views to the east and south. Trees have obscured the view and turned the top into a bleak, forlorn enclosure.

"The oval should be enlarged and shifted 200 feet north of its present location, doubling the area for passive recreation along the edge of Belvedere Lake and enlarging the lake as well."



The Croton Reservoir (now the site of the Great Lawn) was an obstacle rather than a destination. Olmsted designed a north-south path system that bypassed it entirely.



Recommended redesign of the Great Lawn superimposed over the present: The Oval is shifted 200 feet north, the Lake is enlarged and the east-west path system is improved.

Key: Paths to remain; Paths to be added; Proposed Belvedere Lake; Paths to be removed; Bridle path to be removed; Proposed Great Lawn Oval

dience should be encouraged (Philharmonic and Metropolitan Opera concerts are "local" in this sense inasmuch as similar concerts are also performed at other parks in New York City throughout the summer); (b) No more than six large concerts should be permitted per year, and these should be well spaced and given rain dates in case the lawns are not in usable condition for horticultural reasons on the day of the event; (c) Concert producers should post a bond to cover the costs of cleanup and repairs.

Project Subsector #2: The Metropolitan Museum of Art landscapes, Hamilton Lawn, the Obelisk, Greywake Arch and the Levy Memorial Playground

- To the west of the Metropolitan Museum, the walkway should be realigned, the lawns reseeded and some border shrubs planted. (The landscapes to the north and south of the museum have already been reconstructed.)
- Hamilton Lawn should be overseeded and the adjacent border thinned of trees and planted with understory shrubs and ground cover. The statue requires surface restoration.
- Shrubs around the Obelisk should be cleared and replanted. The platform and benches should be repaired.
- Restoration of Greywake Arch will be completed in 1985. The landscape immediately adjacent to the arch is being cleared, stabilized and replanted.
- The Levy Memorial Playground should be relocated at some future date. The site would be considerably improved if it were returned to meadow and the existing walkway realigned to round the corner of the museum in a graceful curve. The *ad hoc* footpath leading to the East Drive should be discouraged with barrier plantings at the top of the slope.

Project Subsector #3: Belvedere Castle, the Belvedere Lake landscapes, the King Jagiello statue, the folk-dancing circle, the Shakespeare Garden and the Swedish Cottage

- Horticultural work along the lake and 79th Street transverse road should include overseeding of lawn areas, clearing and replanting along the transverse, selective planting on the water's edge and some thinning of trees.
- The statue of King Jagiello should be restored and set into the landscape at the crest of the hill in back of its present location. The pedestal and the pavement surrounding the statue should be removed.
- Because the folk-dancing circle is too small to accommodate the dancers, it is recommended that folk-dancing be moved to the Cherry Hill concourse. This new site—at the crest of a hill with specimen trees, sweeping lawns and one of the best views in the Park—has a sufficiently large paved area already in place. If this move is made, the present paved area at the edge of Belvedere Lake can be removed and replaced with a pathway of standard width, relieving congestion at the east end of the lake.
- The Shakespeare Garden should be redesigned to relate visually with the Belvedere above it. The volunteers who are maintaining it so faithfully should be encouraged to continue their efforts.
- The feasibility of relocating the Swedish Cottage to the crest of Summit Rock should be explored. This would be an aesthetically appropriate setting as well as a convenient one for the public. The Conservancy should manage the restored facility as an entertainment, teaching and conference center.

Project Subsector #4: The landscapes west of the Great Lawn oval, the 79th Street Yard, Summit Rock and Mariners Gate

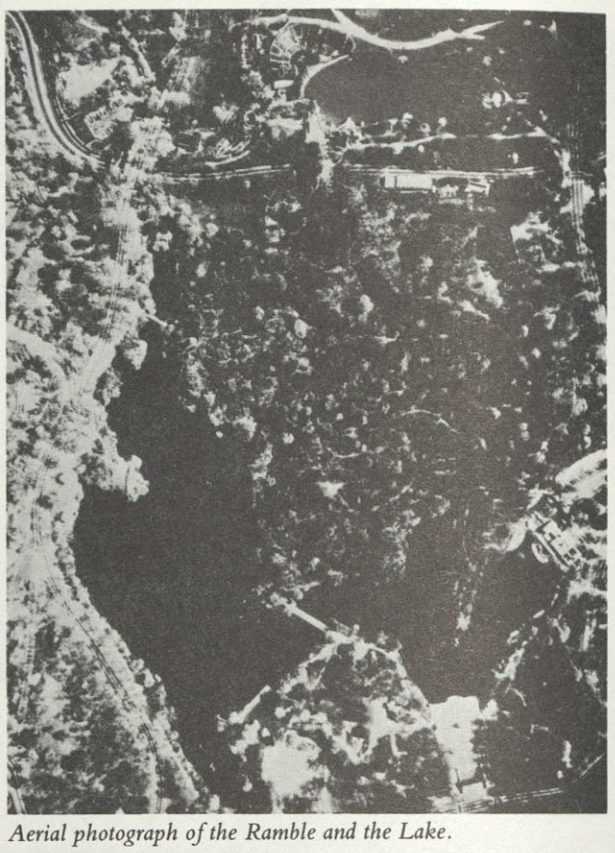
- Extensive tree thinning is required throughout the landscape just west of the Great Lawn oval in order to allow stabilizing of the badly eroded slopes with understory plants.
- The Bridle Trail should be converted to a major pedestrian spine, linking this area with other parts of the Park's western border and giving strollers an uninterrupted north-south walk on the west side similar to that existing along the east side.
- The 79th Street Yard should continue to house the maintenance crews and equipment.
- The Summit Rock landscape requires extensive tree thinning not only to permit slope stabilization and replanting but also to make the area visually accessible and less secluded. The pavement, sand pit, flagpole and benches now crowning the top of the rock should be removed; new benches should replace the old ones along the new walkway. Walkways to the north and south leading to Summit Rock should be reconstructed. As mentioned above, the possibility of reconstructing the Swedish Cottage in this location should be studied.
- The Mariners Gate landscape at 85th Street was restored in 1982. Here lawns should be overseeded and some additional plants installed. The playground located to the south of the entrance should be removed, since it gets little use.

Project Subsector #5: Belvedere Lake, the Delacorte Theater and the comfort station

- If the Great Lawn oval is moved 200 feet north, as is suggested above, Belvedere Lake should be enlarged to twice its present size. The banks of the new water body should follow a more undulating line, like that of a natural stream-fed pond. This would double the shoreline available for public enjoyment and provide a more appealing frame for Belvedere Castle. If this scheme is adopted, walkways along the southern end of the Great Lawn would necessarily need to be realigned to accommodate the enlarged lake, and Winterdale Arch would be used as a pedestrian thruway.
- At some future date, the Delacorte Theater should be relocated to another site within the Park. At such time the Lake should be further increased in size. Its present location encroaches on the view of Belvedere Castle and crowds Belvedere Lake.

The Ramble and the Lake

"The 20-acre Lake, which wraps around the Ramble on the south and west, was created out of a swamp."



Aerial photograph of the Ramble and the Lake.

The Ramble is a 33-acre woodland with rocky outcrops, secluded glades and a tumbling stream called the Gill. It is nestled in the center of the Park just below the 79th Street transverse. The Park's designers, Olmsted and Vaux, sculpted the Ramble out of a wooded hillside that lay immediately south of the old Croton Reservoir. It was, in their estimation, the richest and most interesting part of the pre-Park landscape, both topographically and horticulturally. The native growth in the area included sweet gum, spicebush, tulip tree, sassafras, red maple, black oak, azalea and andromeda—all of which Olmsted termed "exceedingly intricate and interesting."

The Ramble quickly became a haven for nature lovers and others seeking quiet solitude, a wooded sanctuary reserved exclusively for the enjoyment of people on foot. No carriage drives or equestrian paths were placed in it. Winding footpaths led visitors on a tour of constantly changing terrain, highlighted by a carefully planned succession of scenic views.

Detailed notes of Olmsted's design for the Ramble survive, and they reveal a passionate dedication to landscape composition. One of Olmsted's painterly effects, for instance, was the illusion of depth that he created in the view of the Ramble from Bethesda Terrace. He achieved it by putting dark shrubs in the foreground and lighter foliage farther back near Belvedere Castle.

The 20-acre Lake, which wraps around the Ramble on the south and west, was built out of a swamp. In the original design, there were 2.5 miles of undulating shoreline with five coves (one leading to a cave, which was bricked up in the 1930s), an island (now eroded away) and a butterfly-shaped arm of water called the Ladies Pond, which was filled in 50 years ago.

A wooden Victorian boathouse stood on the easternmost shore. It provided docking space for rowboats and a tour boat that took passengers around the Lake, stopping at five boat landings and Bethesda Terrace. In winter, the water level was lowered for ice-skating. The secluded Ladies Pond offered novice skaters a place to practice their skills.

The rustic umbrella structure that once overlooked the Lake from the Ramble above Bow Bridge.

A rustic bridge along the Gill at the turn of the century, before the Gill was rimmed with rocks.

The Ramble early on, with young evergreens.

"All but one of the 12 rustic shelters are gone. Only two of the six original bridges are intact ....Much of the original drainage system has ceased functioning."

Today, the Ramble is prized by a varied constituency that includes bird watchers, who come especially during the spring and fall, when migrating birds are attracted to the green canopy and water surrounding it. Since its restoration in 1982, the Belvedere has been used as an environmental learning center, and the Ramble now serves as an "outdoor classroom" where 4,300 schoolchildren a year are receiving instruction in natural science and other Park-related subjects.

Changes in the Ramble

In the 125 years since this elaborate piece of landscape was built, a number of changes have taken place. All five original boat landings have disappeared; three facsimiles were constructed in the 1960s. All but one of the 12 rustic shelters that crowned the rocky outcrops are gone. Only two of the six original bridges are intact—Bow Bridge, an elegant cast-iron structure that was restored in 1972, and the Rustic Arch, a stone footbridge at the steep western end of the Ramble. Oak Bridge, which crossed the northernmost end of the Lake, has been replaced by a plainer structure known as Bank Rock Bridge. The three small rustic bridges crossing the Gill are all gone—one replaced by a well-crafted rustic replica in 1984, one by a 1935 pipe rail-and-cement bridge, and one by a poorly built wooden structure.

Rustic guide rails once protected the Ramble landscape from off-path foot traffic. Some will be restored.

The Victorian boathouse was replaced in 1954 by the Loeb Boathouse, along with a 2-acre parking lot directly north of it that unfortunately destroyed a lovely small south-facing meadow and the original entrance into the Ramble from the east. A comfort station was added to the northeast corner of the Ramble next to the 79th Street transverse road during the early part of this century, and in the same period a fire station was also built; it sits below grade and is entered from the transverse road itself. Another 140-foot-square parking lot was built next to the East Drive in 1957 just 600 feet north of the boathouse parking lot.

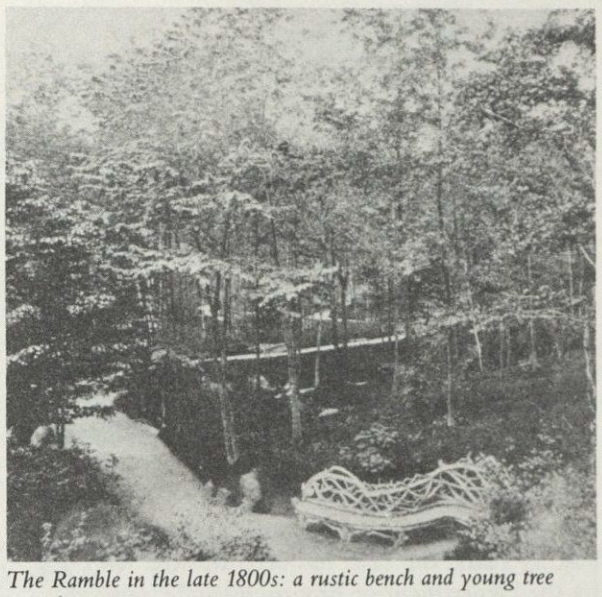
The pedestrian path system still follows the historic layout, although a few new paths have been added, most notably the east-west route across the northern end of the Ramble. The paths are now paved with asphalt in place of the pebble and gravel surfaces of the early years. There is also a multitude of desire lines crisscrossing the landscape; some are harmless and simply add to the country feeling of this part of the Park, but many are on extremely steep slopes and promote erosion.

The beehives, birdhouses and pergolas that contributed to the Ramble's early charm have all disappeared, as have the original benches, which were replaced by concrete-and-wooden benches in 1934. The Ladies' Pavilion, a cast-iron structure on the western shore of the Lake, has recently been refurbished. One noticeable intrusion in the Ramble is the compound for meteorological instruments on Vista Rock directly south of the Belvedere. This installation creates a visual barrier between the castle and the Ramble.

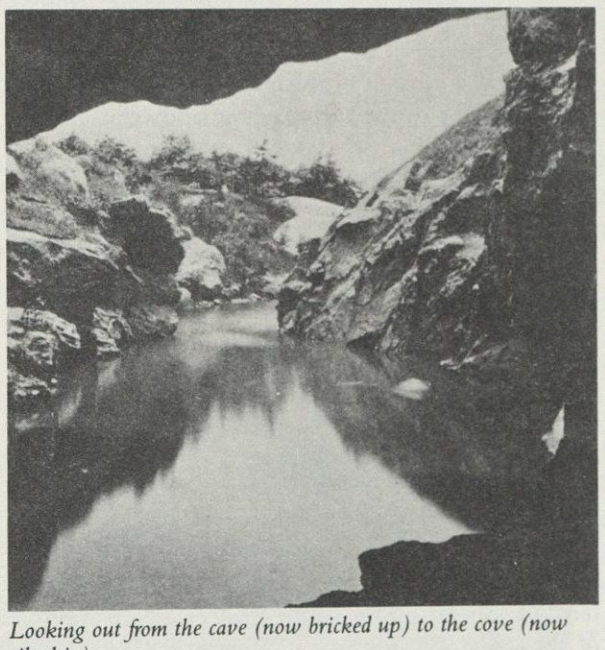
The original topography is largely unchanged, because there has never been any major regrading or re-contouring of the Ramble since it was built. However, the soil is badly eroded. Crests of slopes are denuded of topsoil, which has washed down into the valleys and coves of the Lake below. The coves at Cherry Hill and Bank Rock Bay have become so silted they are in fact returning to their original swampy condition.

The vegetation of the Ramble is still quite varied and interesting, although the landscape is not as crammed with subtle and delicate horticultural effects as it once was. There are 60 or so excellent specimen trees, including various oaks, Kentucky coffee trees, cork trees, Cucumber Magnolias and Japanese Pagoda trees. Red maple, tupelo and sweet gum have prospered in the flatter, wetter areas, and recent dense plantings of seed- and berry-producing shrubs on the Point and along the Gill have proved very attractive to birds and other wildlife and are helping to hold the topsoil in place.

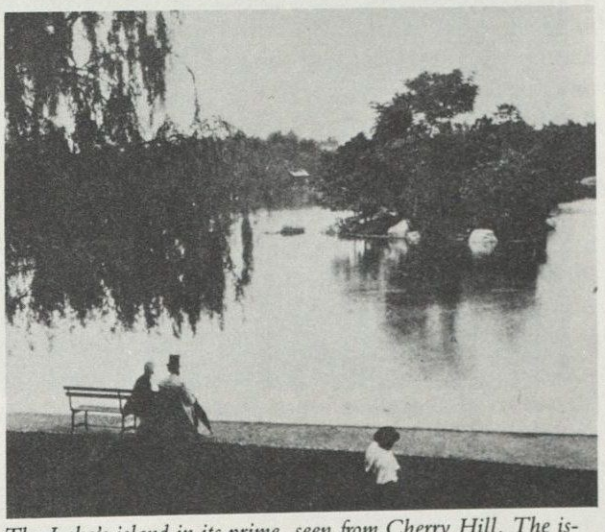
Elsewhere, however, vegetation is generally in poor health, particularly on the steep slopes and Lake edges. Two plants that are spreading rapidly and actually taking over many areas of the Ramble as they crowd out other vegetation are Black Cherry and Japanese knotweed; 80 percent of the Ramble's open lawns have surrendered to these species.



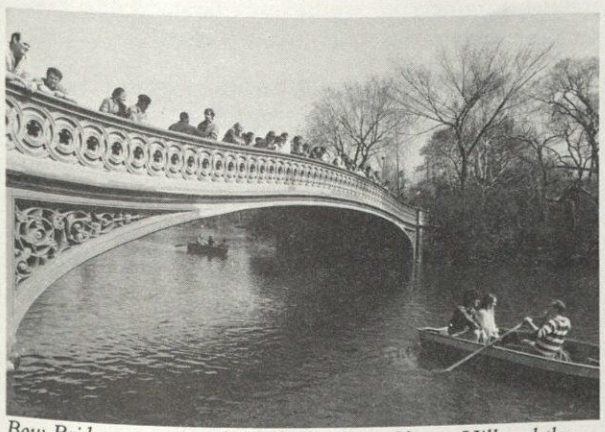
The Ramble in the late 1800s: a rustic bench and young tree growth.



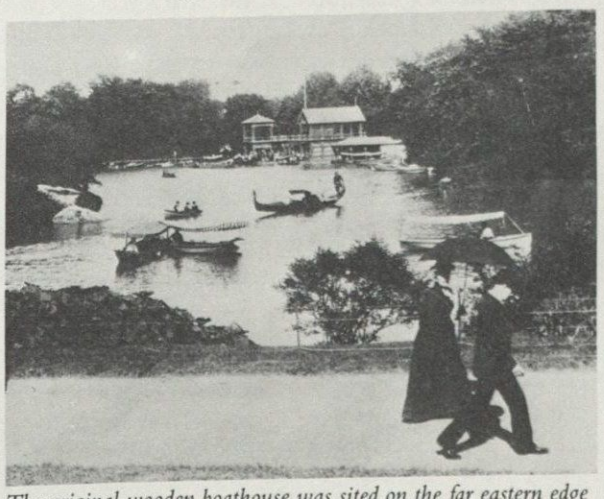
Looking out from the cave (now bricked up) to the cove (now silted in).



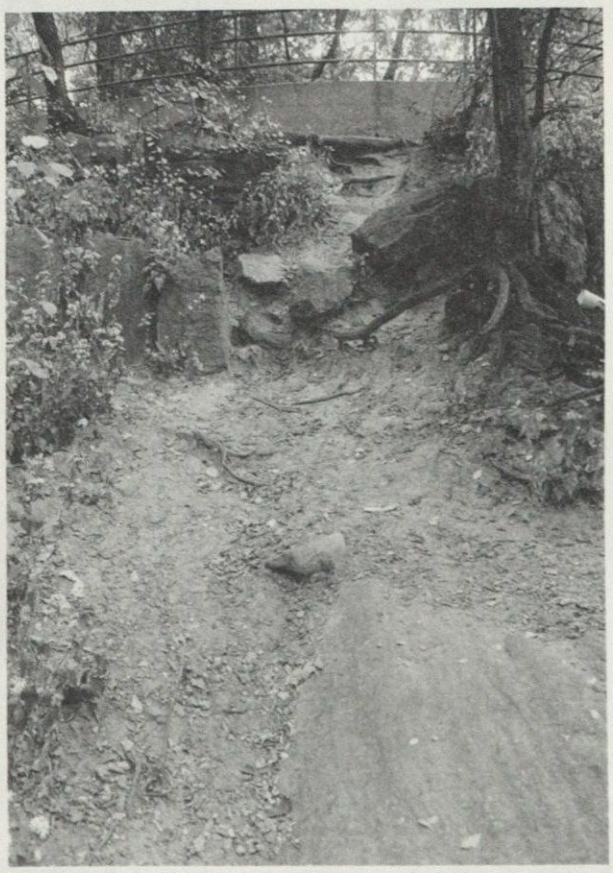
The Lake's island in its prime, seen from Cherry Hill. The island has eroded away, but its underpinnings remain.



Bow Bridge, spanning the Lake between Cherry Hill and the Ramble.



The original wooden boathouse was sited on the far eastern edge of the Lake so as not to obstruct the scenic view from Bethesda Terrace.



Off-path foot traffic on the Ramble's steep slopes causes severe erosion.

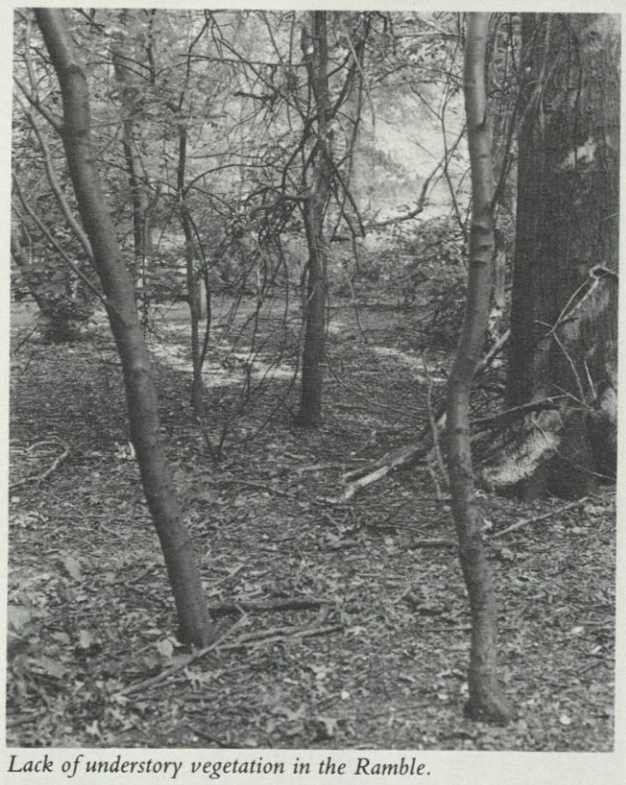
The Point in 1906.

The Point in 1979.

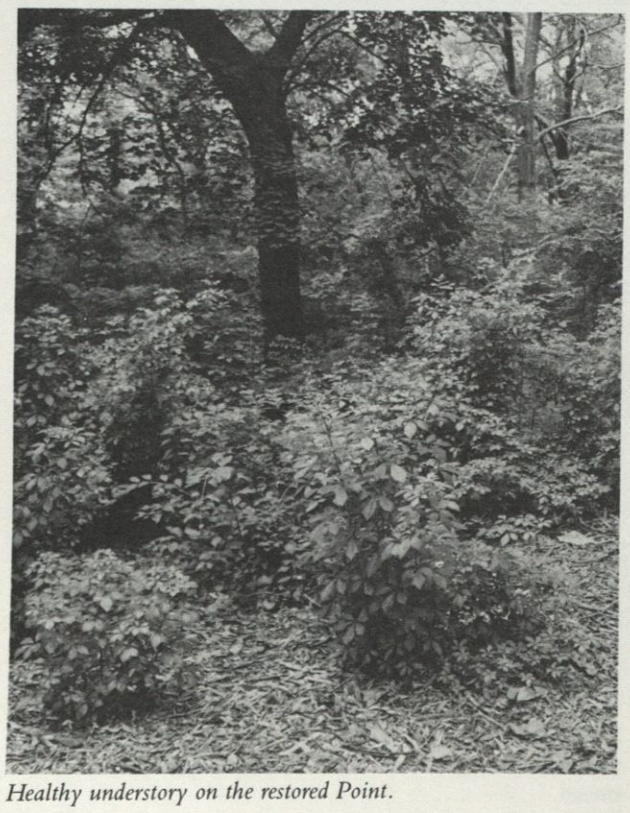
In contrast to the rich inventory of tree species, there is very little botanical variety in the understory or ground plane. The last comprehensive shrub planting in the Ramble (with the exception of the Point) occurred in 1957. *Ad hoc* team sports have obliterated the grass on the lawns that have not already been consumed by knotweed and wild cherry.

Much of the original drainage system in the Ramble has ceased functioning; catch basins are filled with silt and debris. In some areas, especially on the steep slopes, broken drainage tiles can be seen on the surface.

The Gill lost its original wide "V" shape when it was reconstructed in the early 1900s. The installation of a concrete bridge in 1935 reduced its original cascading waterfall to a trickle. Even though recently dredged, the Gill is a repository for silt and debris from the upland watershed. It will continue to fill up with sediment until the slopes above it are stabilized and the underground drainage system is restored to working order.



Lack of understory vegetation in the Ramble.



Healthy understory on the restored Point.

Changes on the Lake

In 1903, the natural edge and clay bottom of the Lake was replaced with gravel and cement in response to an order by the Health Department to improve its condition. In 1929, the edge was again reconstructed and rimmed with natural boulders, a less artificial-looking way of controlling shoreline erosion. At the same time the Ladies Pond was filled in.

The Lake has always been a popular Park attraction. In the 1920s, special events were held on it, including canoe regattas and swimming meets. Rowboating continues, but the tour boats no longer operate and swimming is prohibited for safety reasons. Skating was discontinued when the artificial rinks (Lasker and Wollman) were installed elsewhere in the Park. At various times during the past 25 years, the Lake has been stocked with fish by the Department of Environmental Conservation, and fishing contests are still sponsored by the Parks Department.

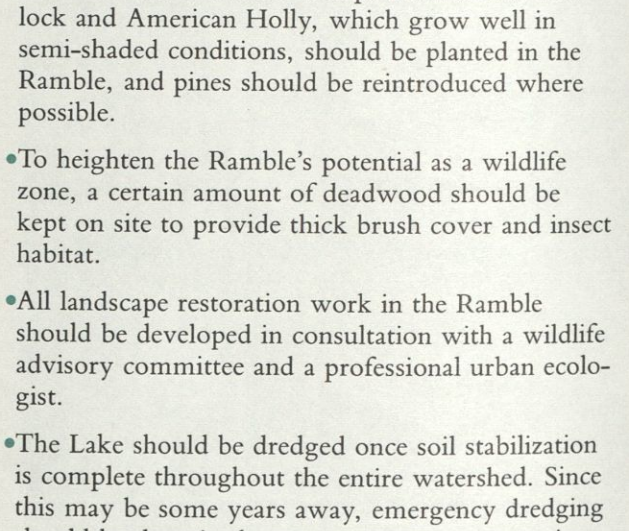
The health of the Lake has suffered because of drainage and erosion problems in the Ramble and other portions of the surrounding landscape. More than a half-million cubic feet of sediment have washed into the Lake from its badly eroded surrounding watershed. Rowboats have rammed into its banks, denuding them of vegetation and further compounding erosion. With the current restorations of the Bethesda Terrace and Cherry Hill landscapes, much of the ground plane on the southern part of the watershed will be regreened. This should help control erosion and silting up. But elsewhere, particularly on the steep western bluffs of the Ramble, erosion is taking a heavy toll. Because of the high organic content of the sediment, the Lake is hypereutrophic.

The Lake's rock edge, constructed in 1929, has been dislodged in many places. Engineers determined in the course of the present reconstruction of Bethesda Terrace that the summer level of the Lake would have to be lowered six to nine inches in order for the terrace and adjacent landscape to drain properly. Because of this, when other sections of the Lake edge are reconstructed in the future, a lowered water elevation will have to be taken into account and some shoreline edging stones reset.

Overall, the history of the Ramble has largely been one of management neglect. Not since Samuel Parsons was Superintendent of Central Park (1880-1910) has there been a consistent systematic effort to maintain it. It is because of the richness of the soil and the abundance of moisture that the Ramble has survived as well as it has. Unfortunately, its decline is increasing at a progressive rate, so landscape restoration has now become essential.

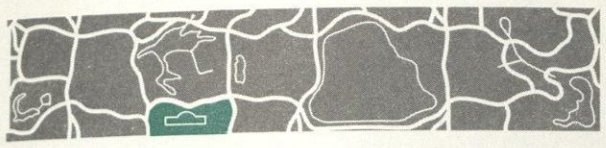
Recommendations

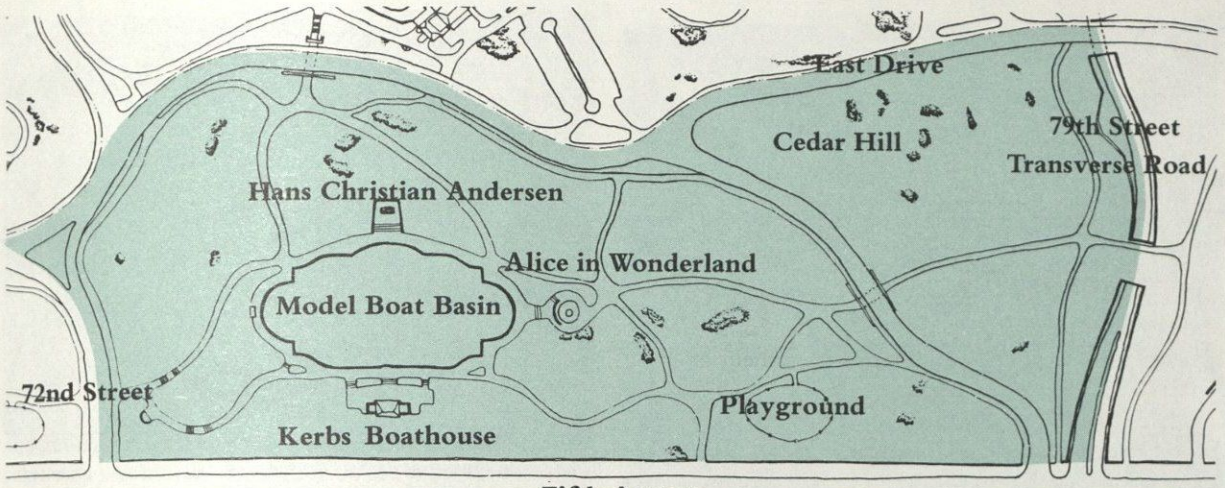
- Since the Ramble has some of the characteristics of a miniature wilderness, certain asphalt paths should be resurfaced and made narrower so as to have the appearance of woodland trails.
- All stone steps on the paths should be repointed and repaired.
- The underground drainage system throughout the Ramble and along the Lake edge should be rebuilt. In addition, paths should be regraded and new stone gutters should be placed beside them to channel storm water in the proper direction.
- Soil erosion should be controlled by replanting the hillsides.
- The entire ground plane of the Ramble should be revegetated as a major part of erosion control. Planting should include shade-loving ground covers in the woodland and native grasses in the meadows and on the sunnier slopes.
- Some of the small meadows and woodland glades that once existed should be coaxed back into existence and managed as permanent herbaceous openings. Their borders should be planted with sun-loving, berry- and seed-producing plants to attract birds.
- Botanical variety should be reestablished in the understory and ground plane. Knotweed and cherry proliferation must be controlled in order to introduce a more diverse range of species. Understory vegetation typical of a native woodland and lakeside—dogwoods, ironwoods and various ericaceous shrubs and hydrophilic plants—should be planted.
- The planting of evergreens is desirable from both a historical and a wildlife viewpoint. Eastern Hemlock and American Holly, which grow well in semi-shaded conditions, should be planted in the Ramble, and pines should be reintroduced where possible.
- To heighten the Ramble's potential as a wildlife zone, a certain amount of deadwood should be kept on site to provide thick brush cover and insect habitat.
- All landscape restoration work in the Ramble should be developed in consultation with a wildlife advisory committee and a professional urban ecologist.
- The Lake should be dredged once soil stabilization is complete throughout the entire watershed. Since this may be some years away, emergency dredging should be done in the two westernmost coves in order to keep them from reverting to dry land.
- The entire Lake edge should be reconstructed, with loose boulders implanted in the shoreline to control erosion. On the steeper slopes, more boulders may have to be used to keep the topsoil in place.
- The island, most of which has eroded away, should be reconstructed.
- The outlet into the city's sewer system should be rebuilt. Engineering studies will be needed to determine whether its size can be increased.
- The boathouse parking lot and the parking lot next to the Ramble maintenance building should be reduced in size and their respective sites returned to lawn.
- Rules should be posted for the Ramble, and they should be strictly enforced. These should include prohibition of bike riding on paths, loud radios, active team sports and boat docking except at boat landings. Skating should be permitted on the Lake when ice conditions are suitable.

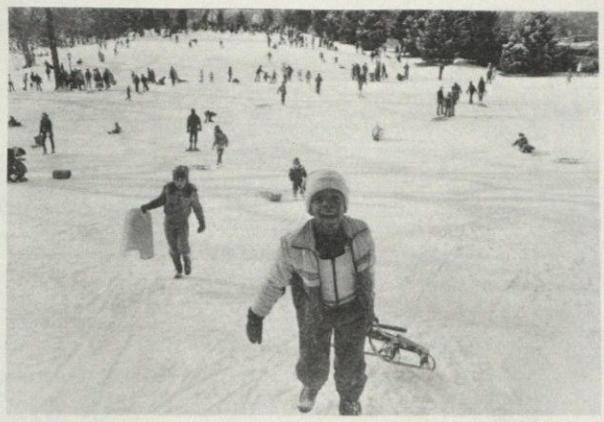


The Point restored, 1984.

The Conservatory Water







Slopes around the Conservatory Water are popular for sledding.

The Conservatory Water project area, which extends from 72nd Street to 79th Street on the east side, is a particularly pleasant and popular part of the Park. At the bottom of a bowl of land near Fifth Avenue and 74th Street lies the Model Boat Basin. It has roughly the same shape as a formal flower garden originally planned to occupy the same spot. A preliminary design by Olmsted and Vaux called for a two-story glass structure to be built with an entrance on Fifth Avenue and stairways leading down to a formal landscape below. As soon as the foundation work began, however, it became apparent that costs were going to be too high, and work stopped. A conservatory was eventually built at Fifth Avenue and 105th Street, and the intended formal garden at 74th Street became instead the Conservatory Water, a pond that has been enjoyed by generations of model-boat yachtsmen. Model-boat contests became an annual event in the 1920s, and in 1929 the basin was rimmed with a low concrete wall at a height so that children could kneel on it and push their boats into the water. Skating championships were held on it in the winter during the Twenties, drawing crowds of up to 20,000 people. In 1954, the Kerbs Memorial Boathouse was built to store model boats and to contain a small food concession and bathrooms as well. At the same time, a small brick concession stand was built at the southern end of the Conservatory Water.

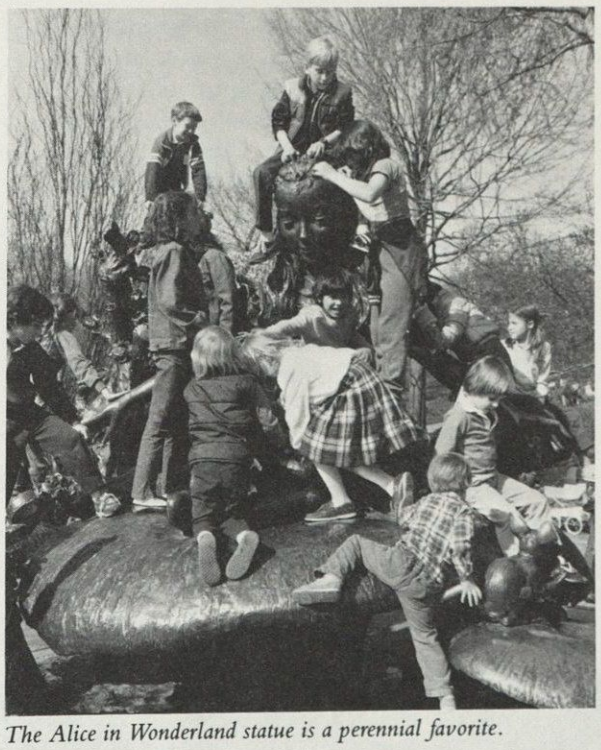
Existing Conditions

Today, the gently sloping landscape around the Conservatory Water attracts strollers, sunbathers, picnickers, nannies and children. Model boating is still popular. The two storybook statues—George Lober's 1956 Hans Christian Andersen, with a duckling that gazes up at him, and José de Creeft's 1960 version of Alice in Wonderland, with the March Hare, the Mad Hatter, the Dormouse and the Cheshire Cat—have bronze patinas that gleam from the buffing they receive from children continually climbing on them. In winter, ice skaters and hockey players enjoy the frozen boat basin, and after a snowfall children sled down Pilgrim Hill—the steep slope running down from 72nd Street to the south end of the Conservatory Water—and Cedar Hill near 79th Street.

The landscape surrounding the Conservatory Water has always been horticulturally diverse. The microclimactic conditions that exist in certain areas allow some species to grow where the general Park climate would normally prohibit them. In 1873, such exotics as Beach Plum, Persian Walnut, Marsh Stone Fruit and Carolina Alspice grew here. Today, there are nine varieties of oaks on the south lawn. The lawn northwest of the boat basin now contains several cherry species, a stand of Australian pines, beech, larch, hemlock, firs, birch, tupelo, a Papaw, Crepe Myrtle and many plane trees. But the landscape beneath the tree canopy presents a less desirable picture.

Intensive use of the low, flat lawns by gym classes has worn away turf and compacted the soil. A wide, well-worn desire line traverses the slope on the south side of the boat basin. A number of features are in a general state of disrepair: the bluestone steps set into the south walkway, for instance, need to be reset.

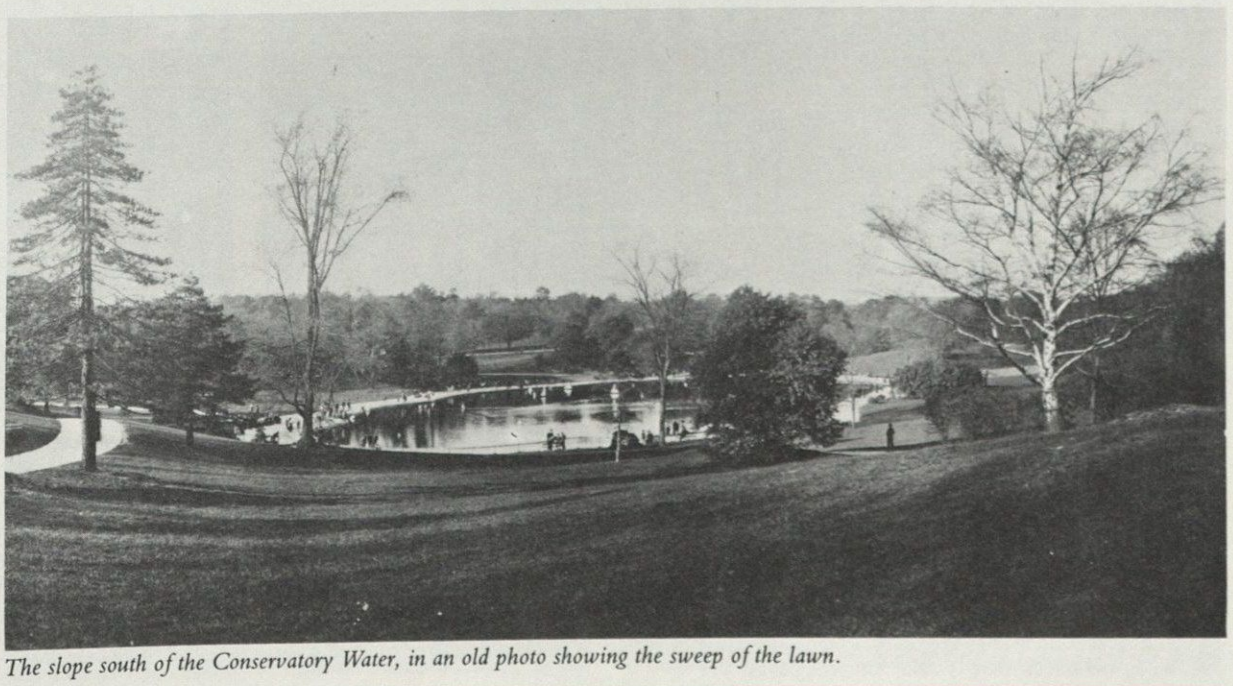
The playground at 76th Street and Fifth Avenue is a typical Moses-era playground with an asphalt play surface and a few pieces of standard pipe-rail play equipment. It is currently being renovated.



The Alice in Wonderland statue is a perennial favorite.

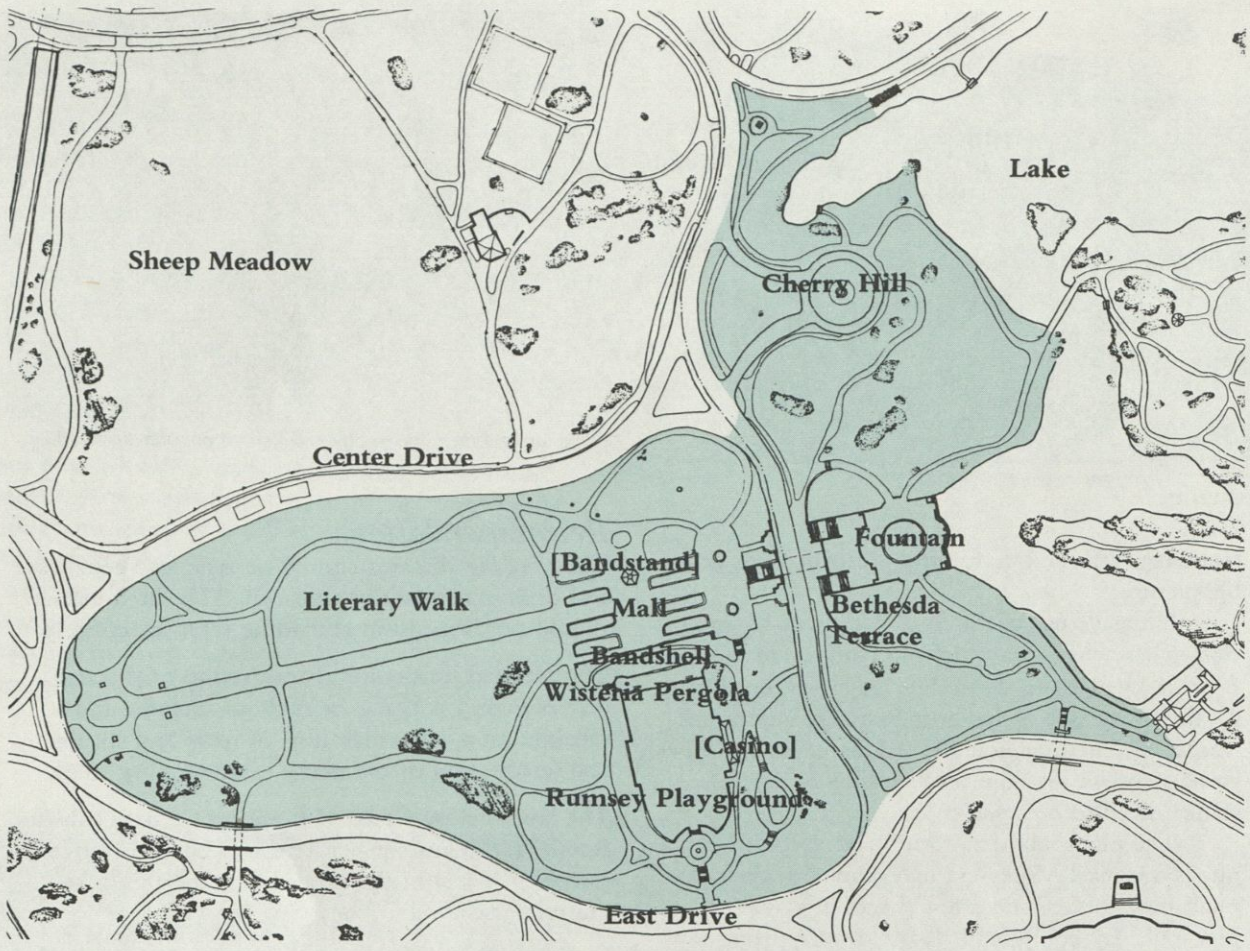
Recommendations

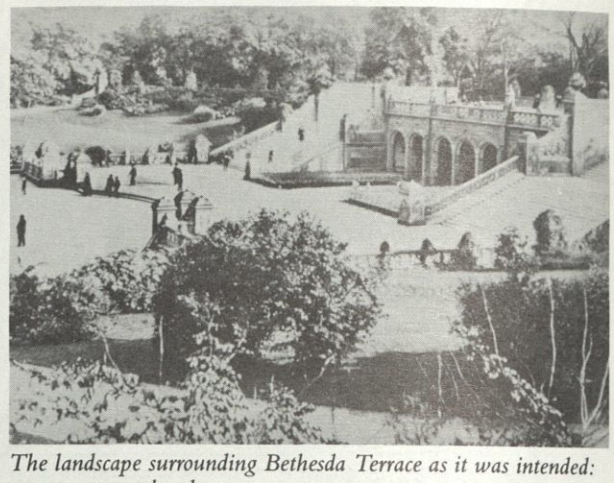
- Walkways in the area should be repaved, benches and drinking fountains replaced. The catch basins should be cleaned out and some replaced entirely.
- The planned horticultural restoration of the area that currently is being carried out includes lawn rehabilitation, new plantings of trees and shrubs and fertilization of the many estate-quality trees.
- The lawn below Cedar Hill requires a new subsurface drainage system before it can be regraded and resodded. Most of the other lawn areas only require overseeding.
- Understory plants should be installed on the steep slopes adjacent to Glade Arch in an effort to control erosion.
- Management policies regulating activities of school groups in the area should be instituted in order to protect the restored lawns.
- Desire lines should be prevented by the installation of pipe-rail fencing along the walkways at the southern end of the project area.
- The playground at 76th Street should be redesigned and reconstructed to include the Sophie Loeb Fountain relocated here from its present site in the Southwest Corner.
- The Kerbs Boathouse and terrace should be rehabilitated. The rest rooms, particularly, should be redesigned to allow accessibility for the disabled, and for efficient maintenance.



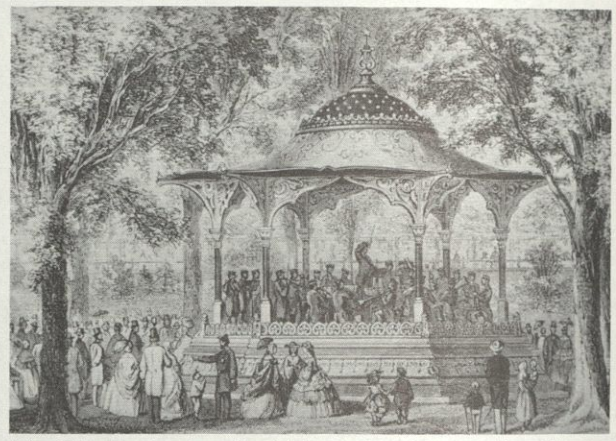
The slope south of the Conservatory Water, in an old photo showing the sweep of the lawn.

The Mall, Bethesda Terrace and Cherry Hill





The landscape surrounding Bethesda Terrace as it was intended: an open sunny bowl.



The Victorian bandstand, which stood on the west side of the Mall.

The Mall and Bethesda Terrace form a north-south axis designed to draw visitors into the heart of Central Park. From the south entrance to the Mall, the eye travels northward along a broad promenade flanked by double rows of American elms that form a vast open-air cathedral of green. At the north end, the Mall terminates at Bethesda Terrace in an elegant cascade of Victorian stonework and one of the Park's most dazzling views: Bethesda Fountain, the Lake and the wild Ramble beyond.

The combination of the Mall and Bethesda Terrace is the only original formal element in Central Park, and it was designed to be the centerpiece of the Lower Park. "In giving it this prominent position," Olmsted wrote, "we look at it in the light of an artificial structure on a scale of magnitude commensurate with the size of the park, and intend that it should occupy the same position of importance that a mansion should occupy in a park prepared for private occupation."

The Mall was one of the first Park features to be built. From the beginning, it was as much an axis of motion and activity as it was of vistas. Strollers, bicyclists, goat carts and roller skaters have paraded along its length. Concerts were performed in an octagonal Moorish cast-iron Bandstand that stood in the lawn beneath the west *allée* of trees. These concerts grew so popular that eventually they become a daily event, and in 1873 the paved area had to be enlarged to accommodate the crowds. Atop a slight rise to the east, visitors could pull off the East Drive, alight from their carriages, stop off for refreshment at the Casino ("a pretty domestic-looking cottage") and walk over to the Wisteria Pergola to enjoy the concert and the sight of the spectators in the Concert Ground below.

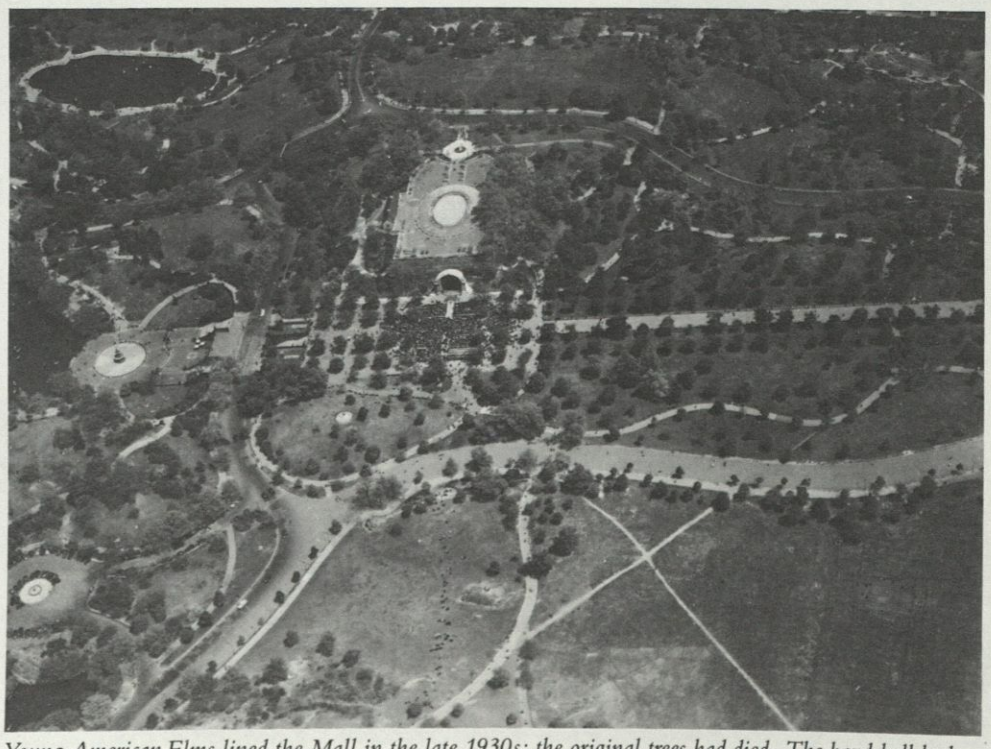
Boats that were tied up at the western edge of the Terrace took passengers around the Lake, stopping at various landings along the way. A Venetian gondola, presented to the Park in 1862, floated nearby "looking sufficiently romantic, lying in all its low, black length upon this water hardly more ruffled than that of its native canals."

Cherry Hill, to the west of the Terrace, afforded another magnificent view of the Terrace, the Lake and the Ramble. Carriage-borne visitors could water their horses in the circular granite fountain pool at the top, overlook the grassy lawns sweeping down from the summit and admire Bow Bridge and, on the other side of the Lake, the rocky and lush Ramble.

Continual Change

Over the years, the Mall's features were repeatedly altered and redesigned. In fact, the Mall is one of the most redesigned features of the Park. Some of the changes have been for the better, many for the worse.

In 1873, eleven years after Bethesda Fountain was built, its single jet of water was replaced by



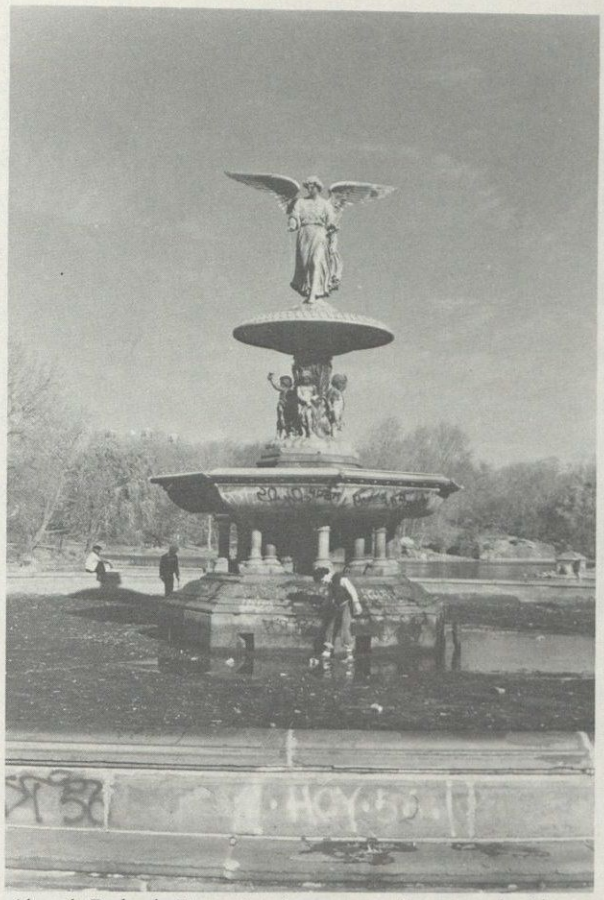
Young American Elms lined the Mall in the late 1930s; the original trees had died. The bandshell had been built, and the Concert Ground had been paved.

Promenading along the Mall at the turn of the century.

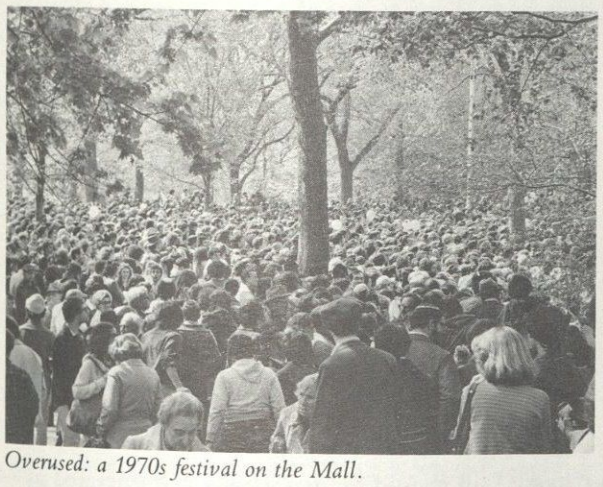
"The realignment of the Park Drive for high speed traffic in the 1930s cut off pedestrian access to the Mall from the south."

Emma Stebbins's sculpture, "Angel of the Waters," commemorating the biblical passage in which an angel bestowed healing powers on the pool of Bethesda in Jerusalem. By association it also commemorates a great public-health victory for New York City, the construction in 1842 of the Croton aqueduct and reservoir system that brought the population pure, uncontaminated water. The statue of Sir Walter Scott was placed at the southern end of the Mall in 1871, the first of several sculptures that would give the name "Literary Walk" to the promenade. The Belvedere, built at the north perimeter of the Ramble in 1869, brilliantly punctuated the view from the Terrace, while below, in the passageway under the Terrace, the ornamental iron trim of the loggia and arcade was gilded. In 1912, the paving of the Terrace was considerably enhanced by a herringbone pattern of red brick, which replaced the crumbling asphalt.

Eventually, the public decided that the Bandstand was acoustically inadequate. So in 1923, it was demolished, and the Naumburg Bandshell was built on the eastern edge of the Concert Ground. The Concert Ground was again enlarged, and its planted islands, gilded bird cages, pools and fountains were sacrificed for pavement. The Bandshell was oriented so that the audience would not face the western sun during evening concerts, but this effectively destroyed the relationship between the Concert Ground and the Wisteria Pergola, blocking



Abused: Bethesda Fountain prior to restoration, marred with graffiti and out of order.



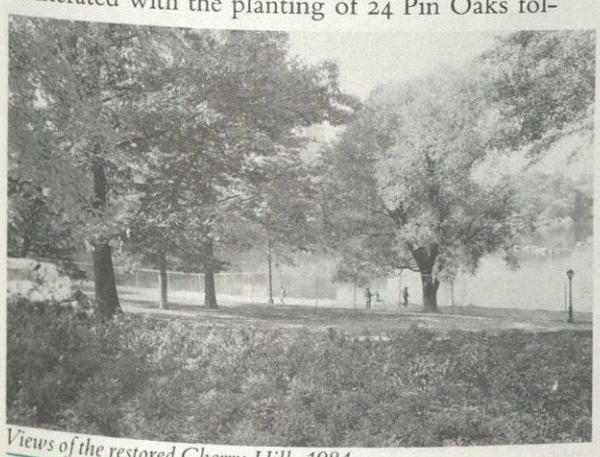
Overused: a 1970s festival on the Mall.

the Pergola from view as well as the view from it overlooking the Concert Ground. However, few people minded this during the era of the popular Goldman band concerts and in the years when public dances at the Bandshell were held.

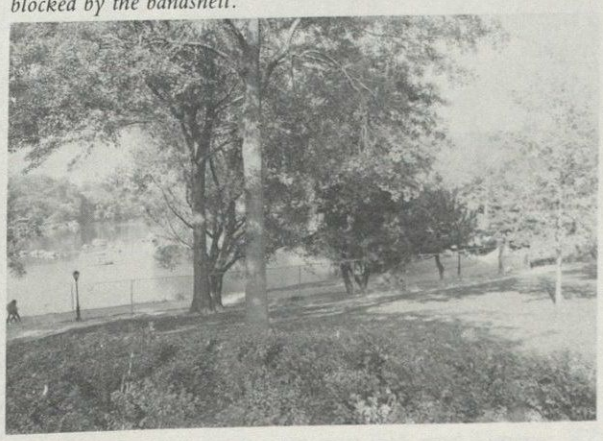
The vacillating fortunes of the Casino came to an end when, after having been enlarged and remodeled a number of times and converted from a simple refreshment stand to a posh nightclub frequented by Mayor Jimmy Walker, it was razed by Robert Moses and replaced with the Rumsey Playground in 1937.

Over the years, vandals chipped away at the delicate stone tracery of Bethesda Terrace; and the open space framing the Terrace on both sides was obliterated with the planting of 24 Pin Oaks following World War II, a horticultural mistake that caused shading out of grass and consequently severe erosion on the slopes leading down to the lower Terrace. The Parks Department installed the Fountain Café in 1967, and, although it damaged the architecture of the loggia and the paving of the Terrace, it was an enormously popular summertime attraction until 1974, when lack of security and enforcement of drug laws created an atmosphere around it that discouraged its patronage and caused it to close. By this time, the lawns on the Terrace slopes were gone and roots of the Pin Oaks, planted too close to the Terrace structure, were interfering with the drainage system and beginning to push the stone walls up and in. Pavement was cracking and heaving, and the fountain was broken.

Those sitting in the Wisteria Pergola at the turn of the century had a view of the Concert Ground below; the view is now blocked by the bandshell.



Views of the restored Cherry Hill, 1984.



Meanwhile, the Mall had become the locale of choice for a variety of gigantic festivals. One food fair attracted 250,000 people, creating a miasma of dust and garbage. It became clear that things had gotten out of hand when one Sunday in May 1977, four events were scheduled in the area at the same time, including a bike-a-thon and a foot race, both of which had to cross repeatedly over the line of a parade march as well as the path of vehicles transporting performers, supplies and floats to a cultural festival.

Of all the changes that took place, the most damaging by far were those that compromised the original north-south axis of the Mall. Early on, crosswalks were sliced across the promenade to accommodate visitors approaching from the east and west. At the north end, the ever-larger Concert Ground became a shapeless, directionless open space of creeping asphalt, further confused by the placement of aluminum highway light standards at the very center of the axis. The realignment of the Park Drive for high speed traffic in the 1930s cut off pedestrian access to the Mall from the south. This severely weakened the Mall as a device to draw people from the city streets into the heart of the Park.

Recommendations

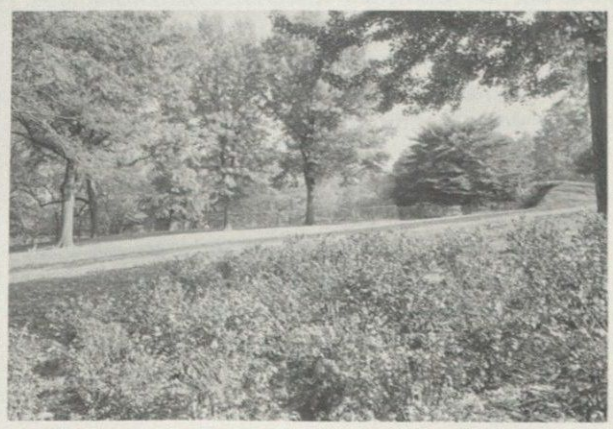
The Mall

- The south end of the Mall has been compromised drastically through realignment of the Park Drive and the covering over of the Marble Arch, alterations that hamper pedestrian approach from the south. To completely remedy this design mistake is quite costly and should not be undertaken in the immediate future; however, reinstatement of a central entrance at the southern end of the Mall would help somewhat to improve access.

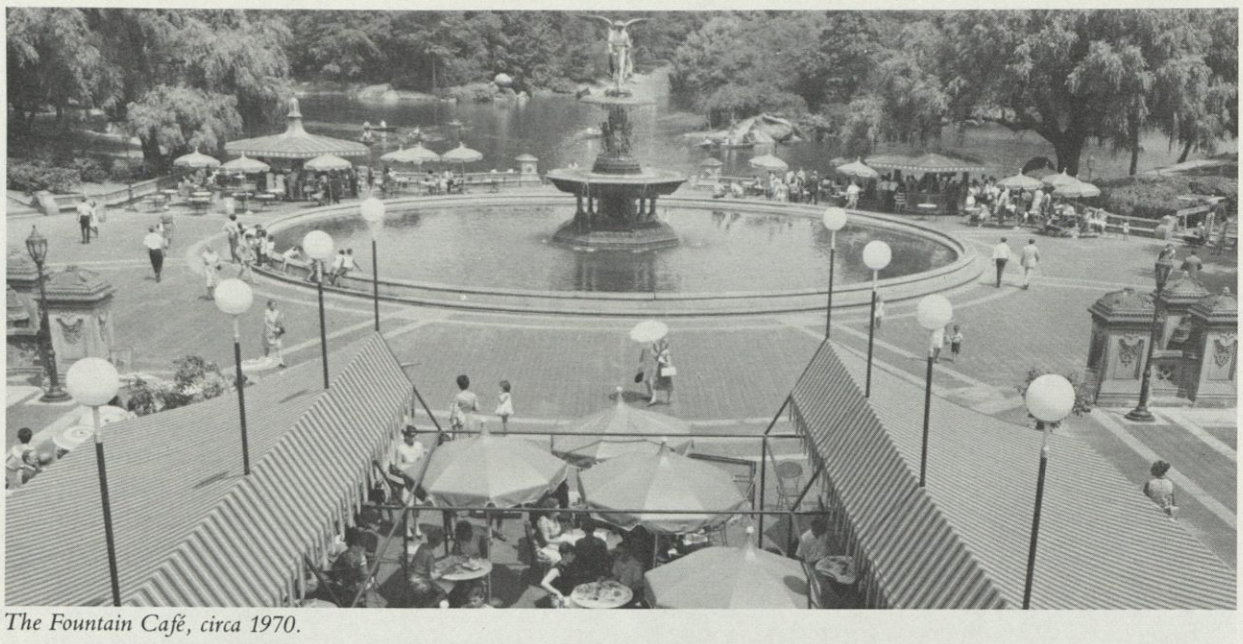
- The double rows of elms along the Mall survive, although they have been imperiled since the 1930s by Dutch Elm disease. This grove of elms, together with others nearby, totals over 300 trees—one of the largest continguous stands of American Elms in the world.

  They are being closely watched and well tended. Each year, infected trees are quickly removed and new elms are planted. However, if the Dutch Elm disease prevails, a decision must be made whether to replant with elms or another species. Though some of the alternatives would change the character of the Mall, each candidate is, in its own way, majestic: Cucumber Magnolia *(Magnolia acuminata)*, Silver Linden *(Tilia tomentosa)*, Common Baldcypress *(Taxodium distichum)*, Katsura Tree *(Cercidiphyllum japonicum)*, European Hackberry *(Celtis laevigata)*, and Dawn Redwood *(Metasequoia glytostroboides)*.

- The lawns surrounding Literary Walk disappeared in recent years because of dense shade from the elms as well as constant trampling by athletic teams



"...permit policies for the Mall and the Terrace have been revised to discourage or rule out: rock concerts, food fairs, political rallies, commercial or promotional events, events likely to draw more than 2,500 people..."



The Fountain Café, circa 1970.

from nearby private schools. In the spring of 1984, a temporary fence was erected, and the soil was aerated, tilled and reseeded with a shade-tolerant grass mix. The lawns are beginning to come back, and sports are currently prohibited on them. A continuous line of benches should be placed along Literary Walk to act as a barrier to pedestrian traffic across the lawns from the Mall side, while a knee-high pipe-rail fence could serve the same function from the other lawn edges.

Fountains in the 1890s had metal drinking cups.

- The Naumburg Bandshell, which has blocked the view of and from the Wisteria Pergola for over 60 years, has long since outlived its usefulness as a performance stage. Performers today use electronic sound systems, and the Bandshell's acoustics are therefore redundant. The Bandshell should be removed, and events requiring a stage should take place in a newly designed music pavilion at the location of the original octagonal Victorian structure. Modern sound systems and an expandable stage area should be built into this concert structure.

- The opening up of the Wisteria Pergola combined with effective security in the area should help put an end to the furtive drug dealing that still occurs here. A small paved plaza could be set at the base of the slope leading up to the Pergola, and the statue of Beethoven, now on the west side of the Concert Ground, could be moved to this plaza close to its original position of prominence. The slope should be heavily planted with low-growth shrubs and ground covers, making an important feature out of what is now an eroded embankment with patches of derelict vegetation. Stairways should rise at a gentle incline from the center to both ends of the Pergola.

- The islands of elms and lawn that used to be a feature of the Concert Ground should be restored in order to reemphasize the axial quality of the original Mall design. They should be surrounded by specially designed cast-iron and wood benches; these would protect the lawns and provide seating for 550 people. Additional portable benches would enable the space to accommodate audiences of up to 3,000. The two circular fountains that originally stood at the north end of the Mall should be rebuilt. The pool edges should be set at bench height to serve as informal seating.

Bethesda Terrace

The complete reconstruction and restoration of Bethesda Terrace began in 1983 and is expected to be completed in 1985. Twelve of the 24 Pin Oaks have been removed, once again opening up spaces on both sides of the Terrace and making restoration of the lawns possible. It is recommended that the remaining 12 oaks not be replaced when they die. The fountain, restored in 1982 through the generosity of Park benefactor Lucy Moses, is being further modernized. The passageway under the Terrace has been restored and will be lit and embellished with trompe l'oeil panels. With sound management and good programming it is expected to become once again a major place of assembly.

Cherry Hill

Cherry Hill Concourse, which had literally become a parking lot by 1934, was restored in 1981. New brick, granite and asphalt pavements were laid surrounding the restored fountain basin and finial. Views from the concourse to the Lake are being reestablished, and the area is currently in the process of being entirely relandscaped with 8,500 new shrubs and trees and 23,000 square feet of new sod.

Rumsey Playground

The playground, which had once been the site of the Casino, is now derelict. Parents prefer to have their children play in the perimeter play areas. In 1985, the playground will be converted into an athletic field to serve the many private schools that seek to use this part of the Park for their sports programs.

New and Proposed Management Strategies

- Parks Department permit policies for events on the Mall and the Terrace have been revised to discourage or rule out: commercial or promotional events; events likely to draw more than 2,500 people; hard rock and disco concerts; food fairs; political rallies; and events that include animals, private parties or boxing matches. Desirable events are those that require no special benches or lights and attract small audiences of regular Park visitors, rather than crowds who come specifically to be entertained or to exploit the Park for political purposes.

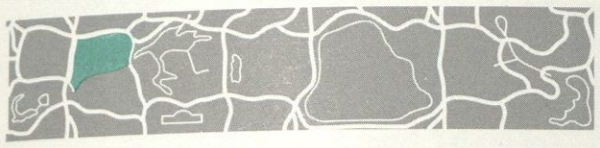
  Application for an event permit now requires a nonrefundable processing fee of $100, an additional application fee of $50-$100, depending on the type of application, proof of an insurance policy protecting the Department of Parks and Recreation from liability for injury during an event, and a bond covering the cost of cleanup after the event. The same procedure should apply to permits for events on the Terrace when it becomes operational in 1986. Programmed activity at the Terrace should consist of small theater events, daily or weekend music and perhaps mime. Food carts on the Mall and Terrace should be licensed according to strict standards that will encourage only vendors who will provide a service that is attractive, colorful and a positive addition to the festive atmosphere of this prime location.

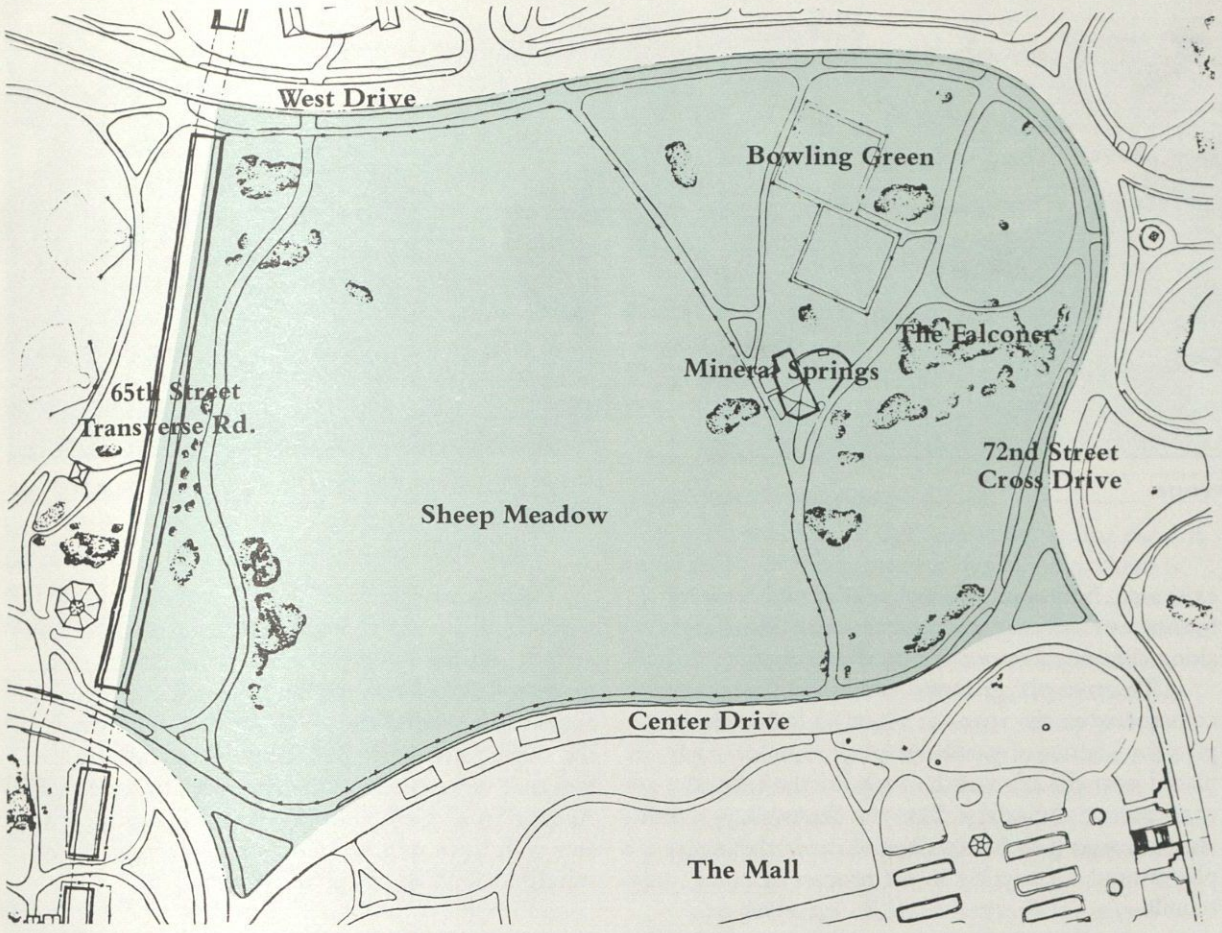
- Cherry Hill should be maintained and operated as it is now for casual strolling, picnicking and sunning. The lawns here will not be manicured as fine turf, in contrast with those at the Mall and Bethesda; rather they should have a looser, more pastoral and informal appearance. The specimen trees now thriving on the upper meadow should always receive special care, as they rank among the finest trees in the Park.

The restored Cherry Hill concourse and fountain.

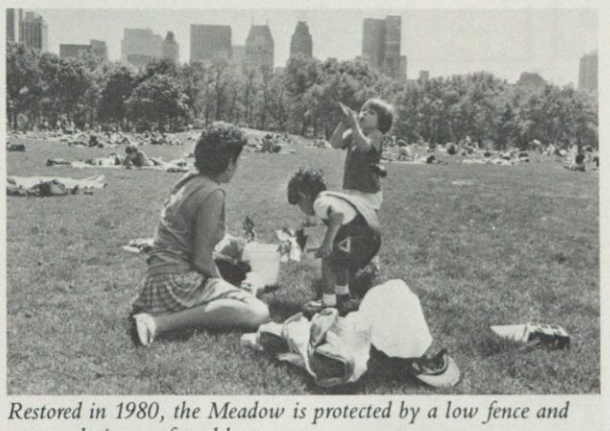
The Sheep Meadow

Sheep grazed on the Sheep Meadow until 1934.





Unregulated sports and mass gatherings destroyed the Meadow.

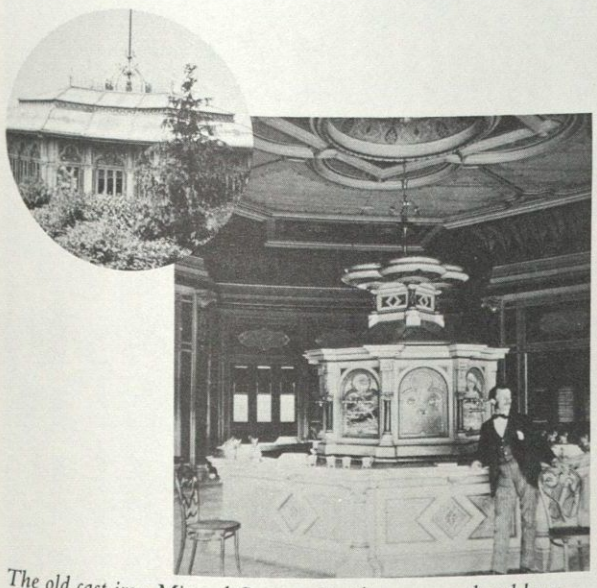


Restored in 1980, the Meadow is protected by a low fence and use regulations enforced by rangers.

Guidelines for the original Central Park design competition in 1857 stipulated that plans had to include a parade ground of some 20 to 40 acres for military exercises. Olmsted and Vaux selected a fairly flat tableland for this purpose and called it the Green. It was the 22-acre site of the present Sheep Meadow in the center of the Park between the 65th Street transverse road and 72nd Street.

"Such a broad open plain of well-kept grass would be a refreshing and agreeable feature," Olmsted wrote. Today, the recently restored lawn is a favorite spot for sunbathing, picnicking, kite flying, strolling barefoot and relaxation in general.

The design of the meadow emphasized openness. Trees along the edges were scattered singly and in small clusters so that light mingled with shadows, giving the impression that the meadow extended beyond its true borders. In 1868, the fanciful cast-iron Mineral Springs Pavilion was erected in the northwest portion of the meadow. It was a concession that sold healthful spring waters, and it was positioned to be visible as one entered the Park at West 72nd Street. Demolished in 1960, it was replaced with a large, less sensitively sited brick structure nearby.



The old cast iron Mineral Springs Pavilion was replaced by a brick structure in 1961.

Sheep, tennis and maypoles

The meadow was never used for military exercises, as it turned out. A flock of 150 sheep were put there in the 1860s, along with a keeper who carried a crook. Baseball was introduced in the 1880s. In 1911, 10,000 girls from the Public School Athletic League danced around maypoles, accompanied by a 60-piece band. A few years later, 38 temporary lawn tennis courts were laid out.

Activity exceeded the limit of the lawn's endurance during the 1960s and 1970s, when mass rallies and concerts drew crowds of over 200,000 people. These events, together with unregulated baseball, football and soccer games, compacted the soil and destroyed the turf, leaving a bare dustbowl and necessitating total reconstruction, which was completed in 1980.

Existing Conditions

Today, the restored meadow is in better condition than it has been at any time in the past 50 years. The land has been regraded, a drainage system constructed, an automatic irrigation system installed and bluegrass sod laid down over a layer of new topsoil. Unfortunately, heavy equipment used during construction partly undid the benefits of the new soil and drainage. A layer of compacted earth lies just below the surface, stopping the absorption of water and creating instant lakes after heavy rains. This problem is being dealt with by the turf and soils crews, who are using a variety of techniques including frequent aeration.

The chain-link construction fence around the meadow still stands. It is a regrettable but necessary means of enforcing a passive-use rule designed to preserve the lawn. Despite the fence, many hours of Urban Park Ranger time must be spent reminding visitors not to wear spikes and cleats, not to ride their bikes on the grass, to leave their dogs outside, to refrain from organized team sports and to stay off the meadow when the ground is wet and the gates are closed.

The ripple effects of the use restrictions on the Sheep Meadow have been felt as far away as the Great Lawn, where large concerts are now held, and as close as the other side of the Sheep Meadow fence, where active sports that once took place on the Sheep Meadow are now being played. Not surprisingly, this increased activity is taking its toll on the alternate sites.

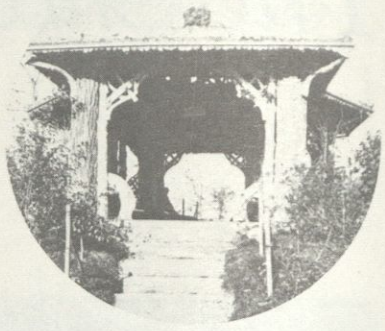
The 1979 reconstruction did not include the whole of the historic meadow. The hill to the north, where the statue of the Falconer stands, was rehabilitated in the spring of 1984; years of accumulated trash and weedy growth were removed to make way for a new planting of conifers and understory trees, shrubs and vines.

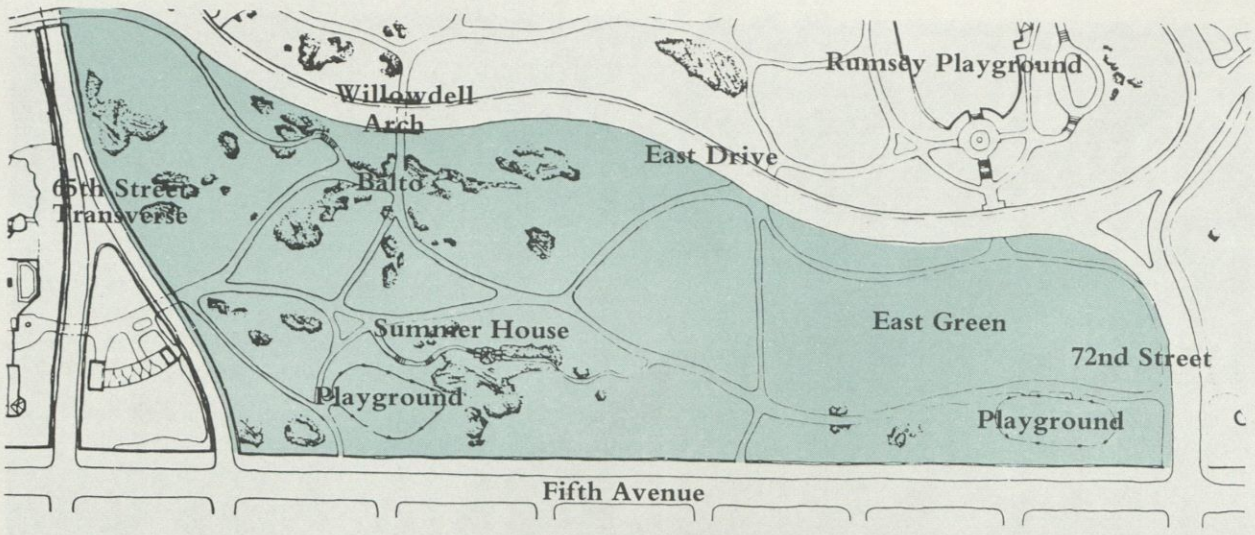
Unfortunately, the Mineral Springs Pavilion and the two bowling greens next to it create a visual barrier and terminus to Olmsted's "broad open plan," effectively bisecting the meadow into two spaces. The paths in this part of the Park are mostly original. However, some additions have been insensitively placed. The soft surface path near the lilac grove, for instance, encourages people walking east to cut across the lawns on the Mall.

Recommendations

- Although rebuilding has already been done in much of the project area, it has been accomplished in a piecemeal manner. Future projects should attempt to reunite the disparate parts into a single landscape composition.
- The chain-link fence is in poor repair and should be replaced. The new fence should be low (4 feet maximum) and of an unobtrusive design.
- The new fence should enclose a somewhat larger area, encompassing the lilac grove to the north. Running the fence along the edge of the asphalt path that leads to the Mall would be a way of guiding pedestrians toward paved pathways rather than encouraging them to cut across the lawns on the Mall.
- The fence along the southern perimeter should be pushed back to the 65th Street transverse road, where it will virtually disappear from view.
- The Mineral Springs concession should eventually be replaced by a more graceful building evocative of the original pavilion and placed on the old site, visible from the West 72nd Street entrance.

The Dene





The Summer House restored. The original is shown in photo at top of page.

The landscape along the east perimeter of the Park from 66th Street to 72nd Street is known as the Dene. It is a combination of gently rolling lawns and shaded walks punctuated with rock outcrops. Notable features include a rustic summer house, two playgrounds and Balto (the statue of an Alaskan husky). Its easternmost walkway is a heavily used north-south pedestrian commuter route as well as a leisurely promenade between the Conservatory Water and the Central Park Zoo.

The First 100 Years

Before the Park was developed, the Dene was a relatively flat site, part of a plateau from which the Mall and the Sheep Meadow were formed. Though it lies at a higher elevation than the swampy valley to the north (which became the Conservatory Water), parts of the Dene were originally a bog, particularly in the southern end, where the elevation drops off substantially.

Olmsted and Vaux made several changes in the topography of the Dene in order to increase its visual interest and rectify its drainage. Lawns were graded and seeded, trees and shrubs were planted, and by 1891, Central Park Superintendent Samuel Parsons wrote of it, "This place reminds one of an English lawn. It is five or six acres of fine turf, unbroken except by a few scattered shade trees of large size. Each tree is a fine specimen. There are horse-chestnuts and some excellent American beeches, oaks, tulip trees, maples, elms, purple beeches, liquidambers, etc."

Willowdell Arch, built in 1860, passes under the Drive and provides pedestrian access to the Mall. This red-brick arch was named for a group of large willow trees that stood nearby. They were among the few specimen trees on the mostly barren pre-Park tract of land.

The rustic summer house, which sits atop one of the Park's largest rock outcrops, affords a view of the Dene landscape and the Mall beyond. Historian Clarence Cook wrote in 1869 that the structure was positioned to maximize the Park experience. "Shut off from the view of passers in the street," he wrote, "one can find here almost as complete a seclusion, for an hour's reading or meditation, as he could obtain in the centre of the Park itself, so judicious has been the planting. . . ."

The Cricket Players' House was constructed in 1870 beside the lawn south of the 72nd Street entrance. Known first as the Cricket Ground, the lawn was later called the Croquet Ground and finally the East Green. The Cricket Players' House was eventually torn down, but the green continued to exist and has recently been resodded and serviced with a new drainage system and irrigation pipes.

Plantations of trees and shrubs were regularly added to the Dene during the first 50 years of its existence. Fifty winter honeysuckles and 70 spicebushes were planted near the summer house and along the perimeter wall in 1908 and 1909.

The two playgrounds in the Dene area were constructed in the 1930s as a part of Robert Moses's plan for a series of perimeter playgrounds—each placed near the edge of the Park for the sake of convenience and safety. The 71st Street playground was redesigned in the 1960s, and the 67th Street playground is currently in the process of being rebuilt.

Existing Conditions

Over the years, nearby private schools have used the East Green for active team sports, repeatedly trampling the lawn into hardpan. As with the restoration of the Sheep Meadow, the recent rebuilding of the East Green has been followed by strict regulation. So far, no one has been allowed to use it at all. Once the grass has taken root, only passive uses will be permitted. Active sports will be diverted to the nearby Rumsey Playground, where the construction of a sports surface is planned.

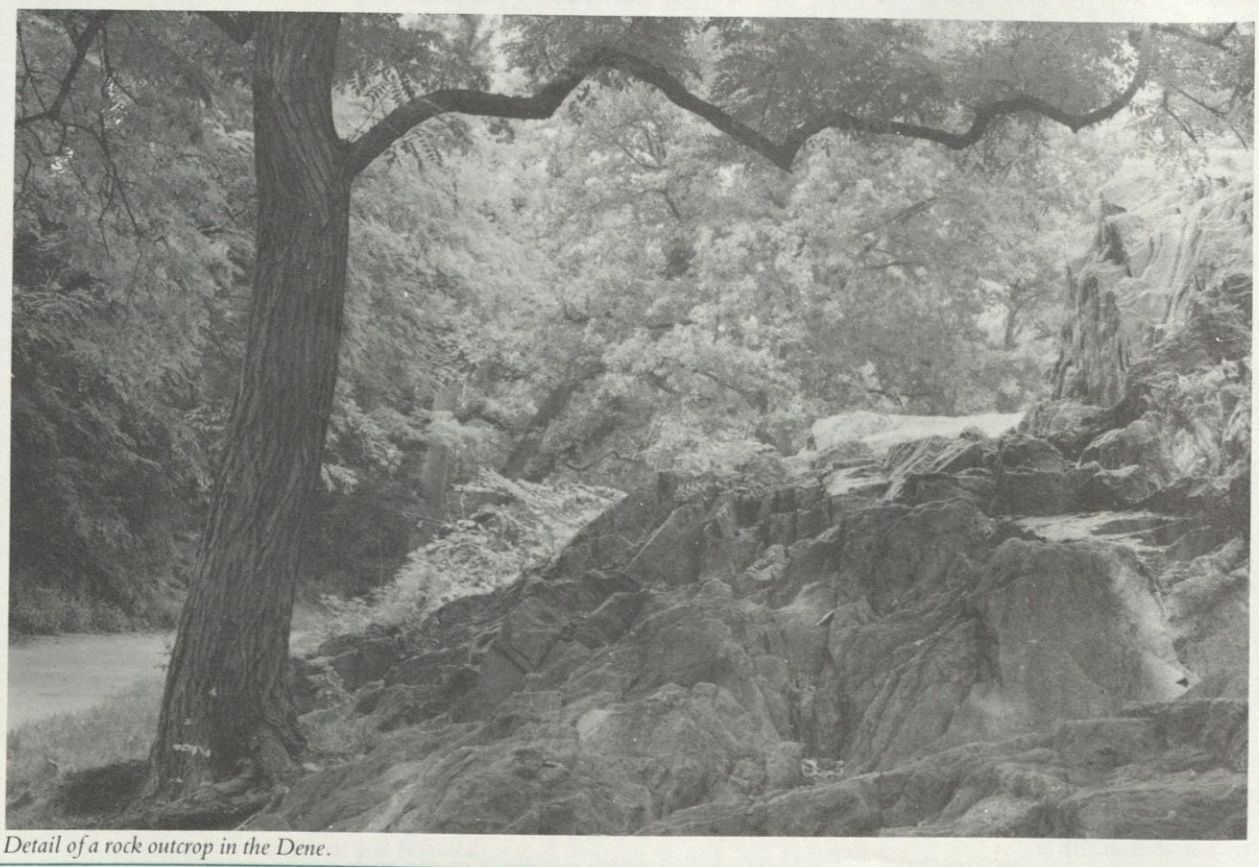
As in other parts of the Park, heavy pedestrian use of the Dene has resulted in a web of desire lines across lawns. This inevitably has led to erosion. The rock outcrops are popular for climbing and sunning, but they also encourage additional off-path foot traffic. Broken subsurface water pipes, which send water gushing to the surface, complicate matters and make some of the lawns soggy and unusable.

An exact replica of the Dene rustic shelter was rebuilt by the Central Park preservation crew in 1983. At the same time, the horticultural crew made soil improvements and planted evergreens and shrubs around the rock outcrop upon which the shelter sits. New pine trees were added to the few that were already there in order to screen Fifth Avenue from view, and the slopes along the perimeter wall from 67th to 72nd streets were partially stabilized with new soil and shrubs.

Recommendations

The restoration of the Dene Project Area has already commenced with the reconstruction of the rustic shelter [completed August 1983]; the redesign and reconstruction of the 69th Street entrance [completed November 1983]; the restoration of the East Green [completed May 1984] and the rebuilding of the 67th Street playground [currently under way].

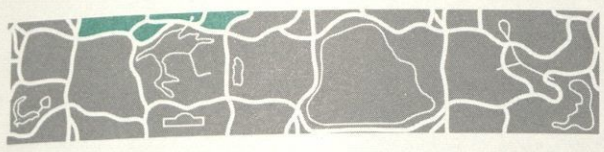
- Further restoration should continue. The drainage system should be repaired, some pathways realigned and others repaved, and new benches and drinking fountains installed.
- The slopes along the perimeter wall and the East Drive should be further stabilized with soil and plants. Lawns should be reseeded and trees pruned.
- Willowdell Arch should receive some structural repair, and broken water pipes in the drainage system under it should be corrected.

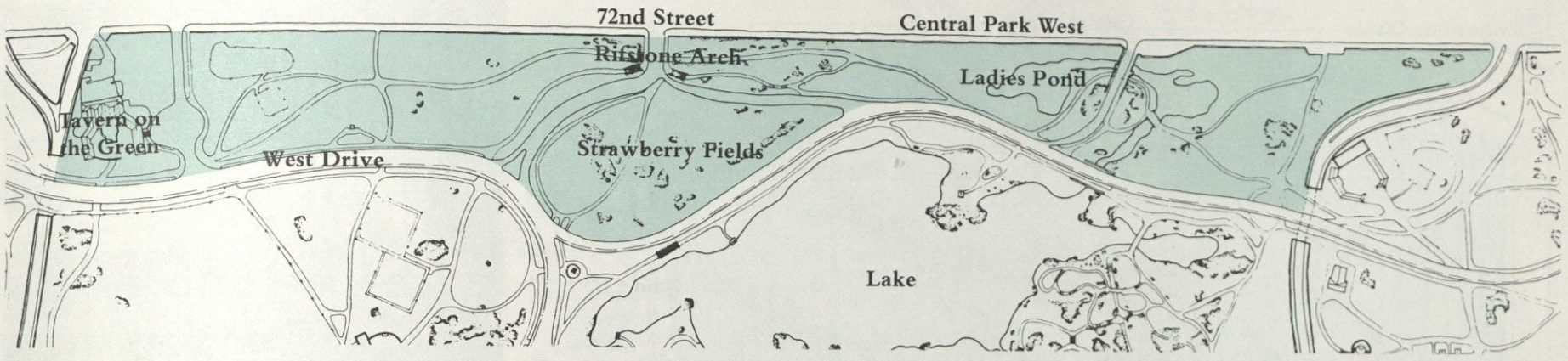


Detail of a rock outcrop in the Dene.

Strawberry Fields and the Midwest Walkway

"The main problem in this area today is that there is no strong north-south pedestrian spine as there is on the east side."





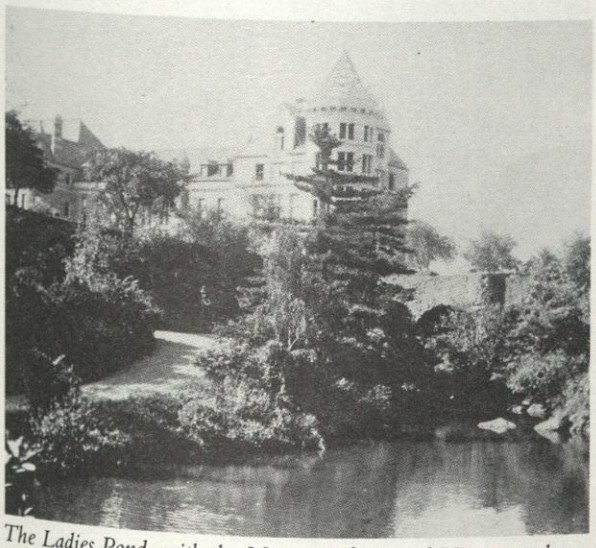
The western perimeter of Central Park from 66th to 81st streets contains Tavern on the Green, three playgrounds, a portion of the Bridle Trail and a teardrop-shaped parcel of land known as Strawberry Fields.

In 1868, when this part of the Park was completed, fewer than 3 percent of the Park's visitors entered through the Women's Gate at 72nd Street. Today, 35 percent come in that way. These two figures tell the story of the western perimeter and, for that matter, the development of Manhattan's Upper West Side.

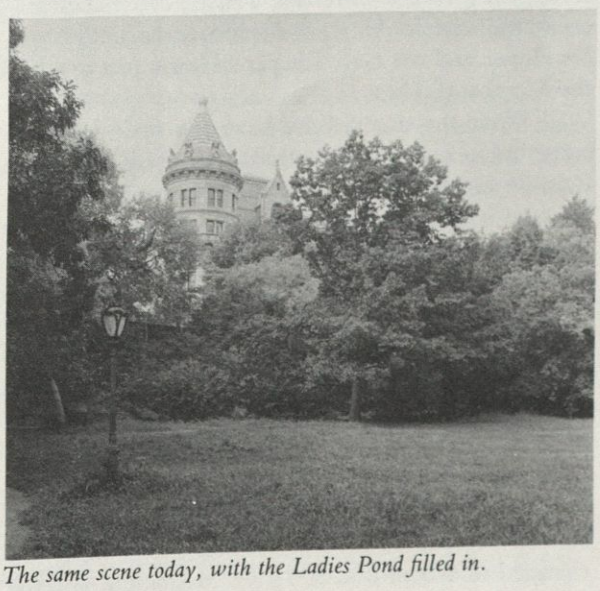
This section of the Park was originally far more simple in design and content than it is today. There were no entrances between 59th and 72nd streets (there are now two, at 67th and 69th streets); Tavern on the Green did not exist; and a stream flowed under Balcony Bridge at 77th Street, leading to the tranquil, butterfly-shaped Ladies Pond (since filled in).

The Sheepfold, built in 1870 as a Victorian brick and stone barn, housed the sheep that grazed on the Sheep Meadow. Olmsted had left the Park administration by the time the Sheepfold was built, and when he returned in 1872 he was critical of what he found. He wrote that he had intended the view from the Mall across the meadow "to become dim under large trees." Olmsted thought the Sheepfold was not only poorly sited but hazardous to reach—pedestrians had to cross the Bridle Trail to get to it.

This circulation problem became even more acute when in 1934 Robert Moses decided to convert the Sheepfold to a restaurant, Tavern on the Green. The change was protested by the Central Park West and Columbus Avenue associations on the grounds that it would create traffic congestion and represent yet another encroachment on the Park. Plans proceeded, however, and the sheep were sent off to Prospect Park. An entrance was cut into the Park wall at 67th Street to serve the restaurant, and the adjacent landscape was paved for a parking lot.



The Ladies Pond, with the Museum of Natural History under construction in the background, 1906.



The same scene today, with the Ladies Pond filled in.

Existing Conditions

The main problem in this area today is that there is no strong north-south pedestrian spine as there is on the east side. Access from the new entrances at 67th and 69th streets leads directly across the Bridle Trail at grade level. Pedestrians and dog-walkers often use the Bridle Trail instead of the pedestrian paths. At the 72nd Street entrance, many pedestrians prefer to walk on the Drive rather than take the path under the wisteria arbor. Overgrown shrubbery, the lack of visual cuing and the fact that the arbor is a bit dark and intimidating may explain why.

The landscape of Strawberry Fields is currently being restored as a memorial to John Lennon, the costs of construction and future maintenance having been underwritten by Yoko Ono Lennon. Among the 161 species of trees being planted here are a number of evergreens that will reestablish the start of Olmsted's Winter Drive. The meadow and the playground in the area once occupied by the Ladies Pond are not frequented very much, and the landscape of the northern half of the project area is generally overgrown, derelict and a bit intimidating.

Recommendations

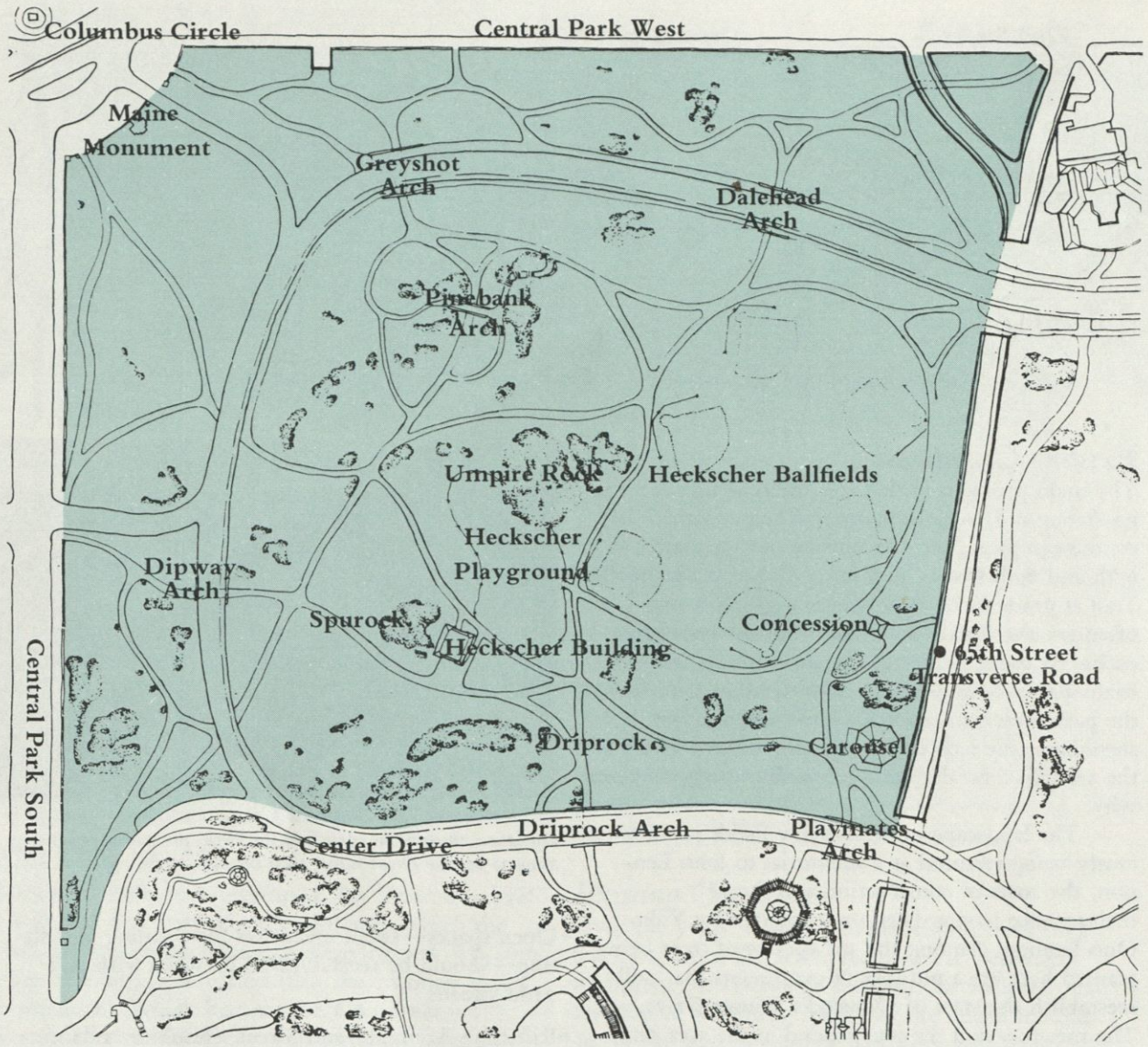
- The southern loop of the Bridle Trail, below 86th Street, should be converted to a major walkway. This would provide the west side of the Park with a badly needed pedestrian spine and would also make Tavern on the Green more accessible from the Park side. A swath of turf beside the new walkway would help visually unite the restaurant and the Sheep Meadow across the Drive.
- The parking lot next to Tavern on the Green should be removed and the space returned to parkland, improving the setting for the restaurant and eliminating an eyesore.

The entrance at 72nd Street and Central Park West. Overgrown vegetation obscures the view into the Park, prompting pedestrians to use the Drive rather than the path to the right.

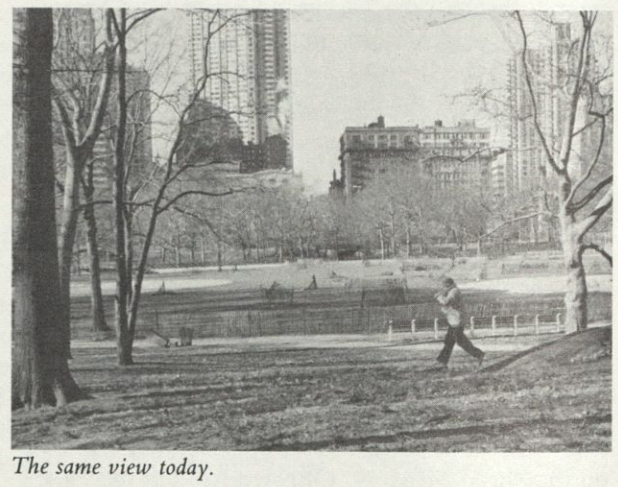
- Open spaces—small meadows for sunning and sitting—should be reestablished between 67th and 72nd streets.
- Riftstone Arch, at 72nd Street, should be relandscaped with a new drainage system installed underneath. The high shrubbery on top should be replaced with a low-growing tumbling variety to allow views into the Park. This, and the replacement of the historic rustic arbors on either side of the Drive at the lower intersection, would encourage pedestrians to use the southeast path rather than the Drive as the main route to the Sheep Meadow and the Mall.
- The landscape along the perimeter north of 72nd Street should receive major reconstruction. Some selective tree removal would be a necessary first step prior to regrading, resoiling and replanting the rocky outcrops and slopes.
- The Ladies Pond should be restored, its southern arm replacing the underused playground at 77th Street, and its northern arm reclaimed from the dank, little-used meadow on the other side of the arch. This would provide a small secluded backwater for aquatic birds and other animals. The area surrounding the pond should be landscaped as open sunny lawns for picnics and small gatherings. The banks of the pond should be planted with lush vegetation to provide color and textural interest as well as animal habitats.
- The severely eroded north slope of the stream connecting the Ladies Pond with the Lake should be rebuilt.
- A major new entrance should be built at 79th Street across from the American Museum of Natural History. This would open up an unused strip of perimeter landscape from 77th to 81st streets, improve east-west pedestrian circulation and provide a link between the museum, the Belvedere and the Metropolitan Museum of Art.

The Southwest Corner

"...the landscape in the Southwest Corner has become a series of islands surrounded by traffic."

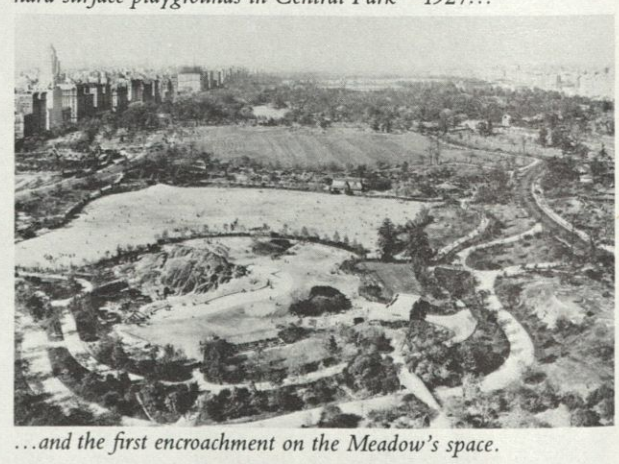


Historic view of Southwest Meadow.



The same view today.

Heckscher Playground: the first of 27 permanent man-made, hard-surface playgrounds in Central Park—1927...



...and the first encroachment on the Meadow's space.

The Southwest Corner of Central Park—that area bounded on the north by the 65th Street transverse and on the east by the Sixth Avenue Park Drive entrance—is today the site of six permanent softball diamonds, the Heckscher Playground, the Carousel and sections of the Park Drive and the Bridle Trail. Before the Park was constructed, this piece of land was essentially a swamp. Its topography was that of a shallow valley with several large rock outcroppings and De Voor's Mill Stream flowing out of it.

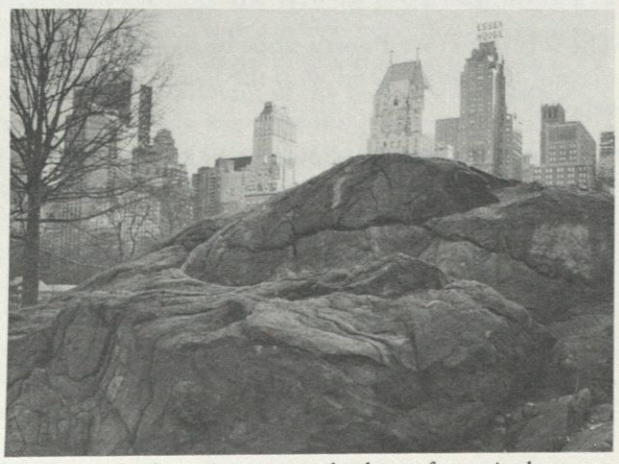
Following the original design, the stream and the swamp were filled in and graded in order to construct an open meadow surrounded by irregularly spaced groves of trees. The Carriage Drive and the Bridle Trail ran parallel to each other as they passed around the Meadow's perimeter. A substantial amount of landfill was added to bring the Park up to street level at the Southwest Corner so that a major entrance—Merchant's Gate—could be built at Columbus Circle. Four major bedrock outcroppings were left exposed: Umpire Rock, Drip Rock, Spur Rock and the boulders that formed the support for Pine Bank Arch. Visible from Merchant's Gate and from the Sheep Meadow to the north, Umpire Rock was the dominant landscape feature.

When the Park opened, Merchant's Gate was the second most heavily used entrance for horses, carriages and pedestrians. Those walking through the gate could pass over or under the Drive and the Bridle Trail to get to the central Meadow (then called the Ball Ground). They did so by means of arches—three masonry arches under the Drive and two of cast-iron over the Bridle Trail. The Bridle Trail itself passed under the Drive at two points in this area.

The 10.5-acre Meadow was originally reserved for children and school groups and was used variously for softball, cricket, croquet, football, coasting and picnics, depending on the season.

The original architecture of the site was highlighted by seven arches of various design and composition. Four other structures served different functions and represented varied architectural styles: the wooden Carousel, a rustic cedar shelter on a knoll overlooking the Meadow, the Ballplayers House and the Gate Keeper's House just inside the Merchant's Gate.

While the area did not have any main landscape theme such as those that distinguish the Ramble and the Mall, it was unified and very simple, and it offered immediate pastoral scenic relief from the city. Over the years, however, it has undergone substantial change.



Umpire Rock: the most important landscape feature in the area.

The First 100 Years

Early in the 1900s, in response to increased street traffic, a Drive and Bridle Trail entrance was constructed at Seventh Avenue, cutting the south-edge landscape in two. Later, a vehicular entrance that was added at Sixth Avenue sliced across the Park's southern landscape once again. Walkways were changed to accommodate Drive circulation, and the landscape became a series of islands surrounded by traffic.

Incursions into the Meadow began in 1927 with the building of the Heckscher Playground in the southern part. The playground had two pavilions, a boy's and girl's rest room, the most advanced play equipment of the day and a wading

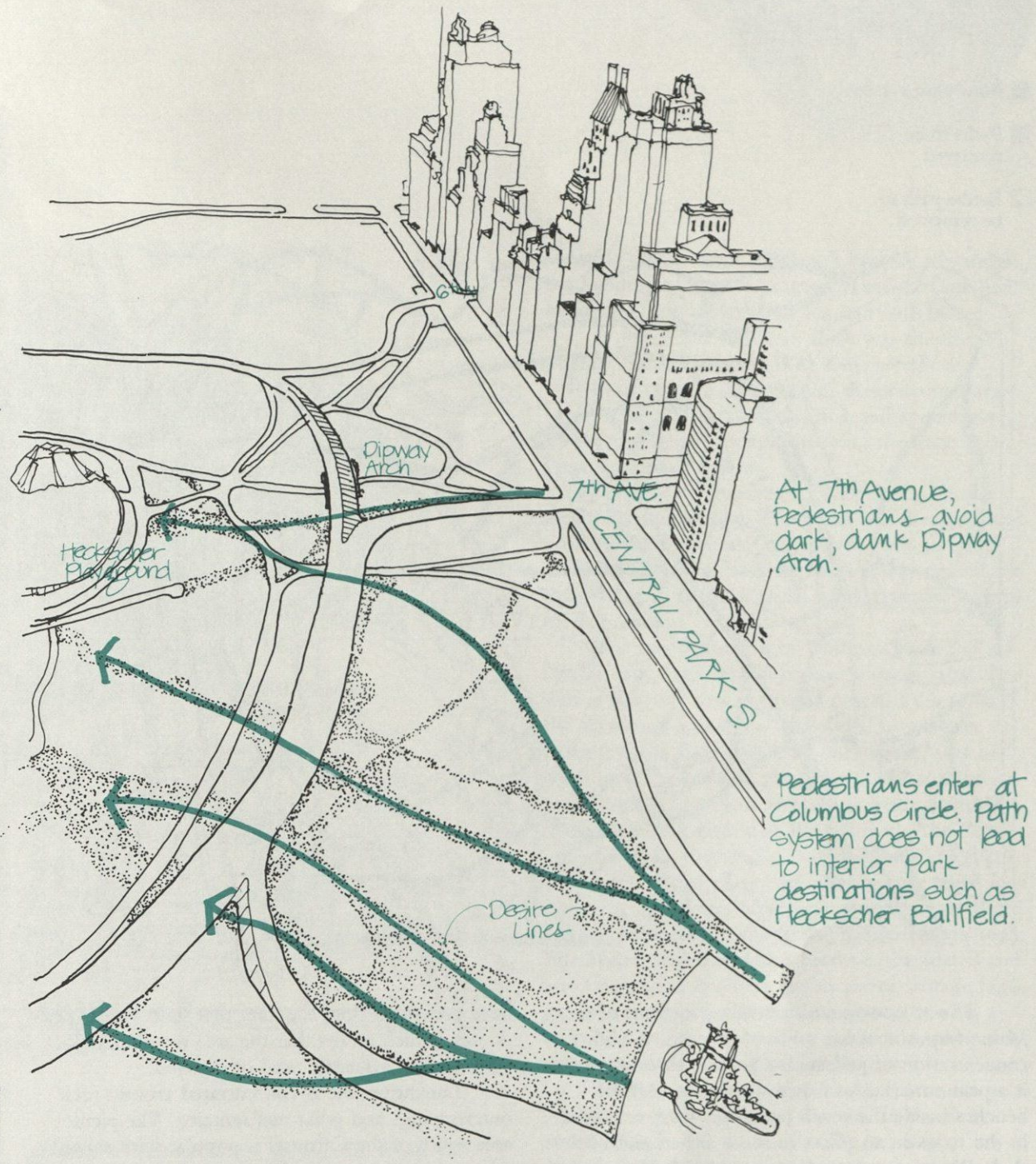
"Despite a complex drainage system, vestiges of the original bog in the Southwest Corner remain."

pool—all of which took up about four acres. The playground's surface, originally dirt-fill, was soon paved with asphalt.

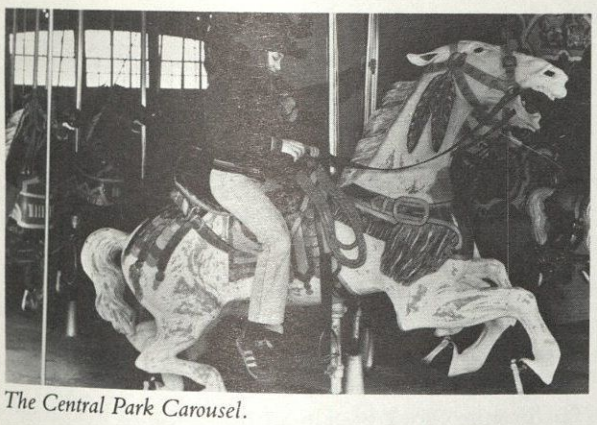
Most of what was left of the Meadow became, in 1934, five softball fields with backstops, four handball courts, a horseshoe-pitching area and more paths. Two years later the Sophie Loeb Fountain was constructed between the playground and the ballfields with a paved plaza, paths, a gate and a closely planted circle of plane trees. All of this took the rest of the central meadow out of general unprogrammed use.

The Gate Keeper's House was the first original building to be removed; it disappeared at about the time the gatekeeper's job was eliminated. The rustic shelter was demolished sometime after 1934; the wooden Carousel, having burned, was replaced by a brick structure in 1951; and the Ballplayers House was demolished in 1969. Meanwhile, the Maine Monument was added to the Merchant's Gate in 1913, and in 1928, another comfort station with a plaza for a roof was built into the exterior Park wall at 61st Street.

Over the years the vegetation in the Southwest Corner has become more and more dense. The grassy area behind the Maine Monument was closely planted with a grove of oaks. Small clearings elsewhere were filled in with new trees, and the pathways around the Meadow were planted so heavily that the area became a circular wall of trees instead of a loosely defined pastoral edge.


6
Dipway Arch
7th AVE.
CENTRAL PARK S
Heckscher Playground
Desire Lines
At 7th Avenue, Pedestrians avoid dark, dank Dipway Arch.
Pedestrians enter at Columbus Circle. Path system does not lead to interior Park destinations such as Heckscher Ballfield.

In the absense of any clear entrance to the Park from the southwest, visitors have trod a massive web of desire lines.

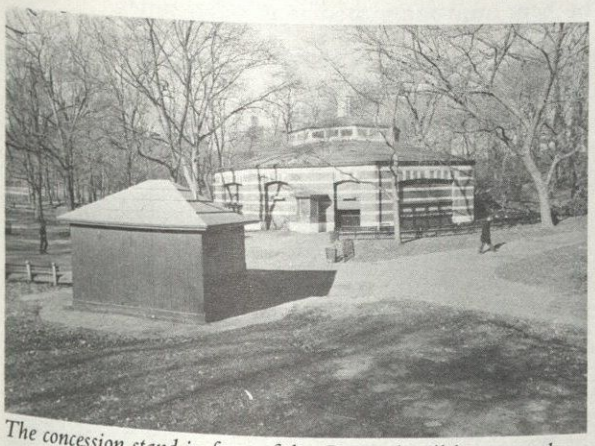


The Central Park Carousel.

Because of overplanting, brutal circulation alterations and architectural additions, all of which were done without any respect for the landscape integrity of the Park, the Southwest Corner is today from a design point of view its most incoherent part. Closer inspection reveals just how unfortunate the situation is.

Existing Conditions

We have seen how over the years a unified landscape has been parceled up into increasingly smaller sections. The landscape has been divided into areas of specialized use, and so many paths have been etched across the grass to new destinations that the linear footage of asphalt has doubled since 1873. The original Meadow has all but disappeared, and the original circulation patterns have been lost in a plethora of new paths laid out in a spirit contrary to that of the original design.



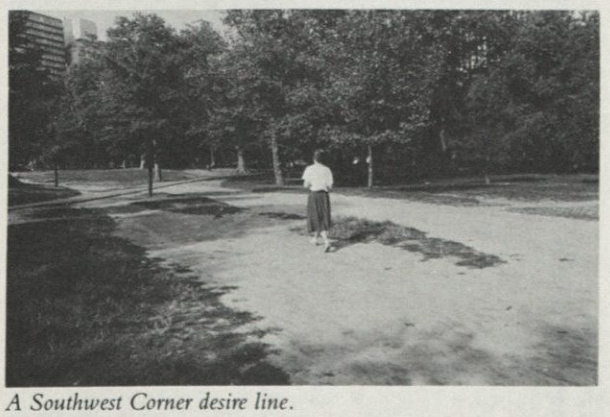
The concession stand in front of the Carousel will be removed and replaced by another one, better sited and of a design in keeping with the style of the Park's architecture.

Columbus Circle and the adjacent West Side of Manhattan are currently in a period of tremendous growth and development. Within the past ten years, new residential high rises have sprouted up in the Lincoln Center area, and developers now speak of plans to replace the Coliseum with the world's tallest skyscraper. The West Side boom has already created a new pattern of everyday use in the Southwest Corner. Future development will bring even more visitors to this part of the Park.

Fifty-ninth Street along the Park's southern boundary has long been a densely populated hotel and luxury residential district. With Midtown and the theater district directly to the south, the entrances on Central Park South (59th Street) and the landscape beyond draw a constant flow of office workers, tourists and residents of nearby neighborhoods.

Columbus Circle is a major transportation node for both buses and subways. Six subway lines converge under it: IND lines A, D, AA and CC; BMT line B; and IRT line 1 (with an indirect connection to IRT Express lines 2 and 3 and the rest of the system). Four bus lines stop at the Park's edge, and four more have stops a few blocks away on Broadway. Thus the Southwest Corner is one of the Park's most accessible areas, and its transportation facilities can accommodate whatever increase in traffic they are called upon to bear. The question is: Can the Park bear the traffic as well?

Unfortunately, as a functioning landscape, the Southwest Corner has, as we have seen, already become something of a muddle. To begin with, conditions at Merchant's Gate seem to defy most users' comprehension. There are several reasons for this. The Maine Monument blocks the view into the Park. A 150-foot-wide area behind and to both sides of the monument has been left without the low perimeter wall so that pedestrians flow somewhat aimlessly into the Park across the entire width. The two major pathways, instead of heading to the northeast where most people want to go,

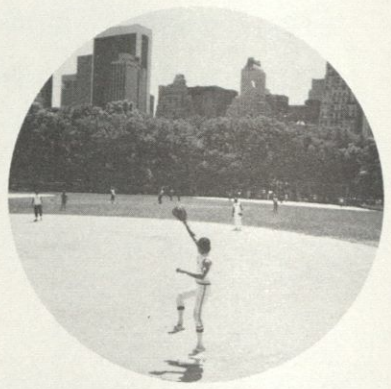


A Southwest Corner desire line.

veer either north or east through dark and dank below-grade arches. Not surprisingly, the public has abandoned these paths and trod a massive web of desire lines across the Park toward such popular destinations as the Wollman Rink, the Zoo and the Heckscher Playground.

Despite a complex drainage system, vestiges of the original bog in the Southwest Corner remain. All of the below-grade arches have drainage problems, and most have been damaged by soil erosion. Topsoil has flowed under Dalehead Arch, and the condition of the soft-surface Bridle Trail that runs under it is so deteriorated that it has been closed at the western side.

"Redundant walkways should be removed to reduce the present piecemeal character of the landscape."



Key:

- New path system
- Paths to be removed
- Bridle path to be removed

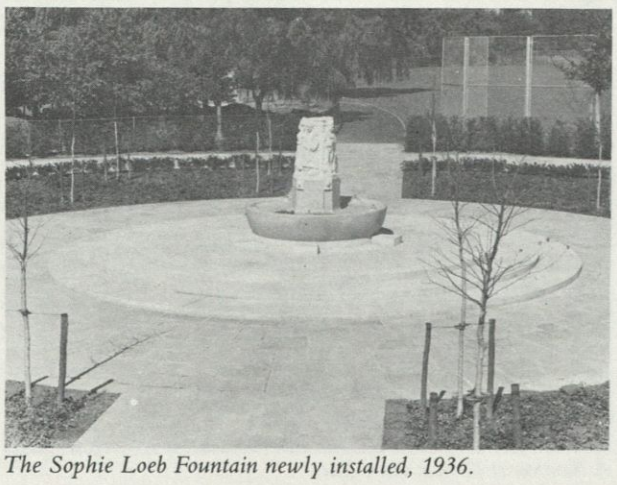
The 20,000-square-foot plaza in front of the Maine Monument has a life of its own. A high concentration of pedestrians passing through makes it a prime market of illegal drug sales. All the benches inside the south perimeter were removed in the 1970s in an effort to force dealers out of the Park. The move was partly successful. However, "stashes" are still kept inside the Park.

The ballfields, the Heckscher Playground and the Carousel are popular excursion sites and are well used. But the barren expanse of asphalt in the center of the playground gets almost no use at all and is extremely hot in summer. The Sophie Loeb Fountain (not presently in working order) has drainage problems that cause the plaza around it to flood. The London plane trees around the fountain have grown so close together that light barely penetrates, which means that the area remains dark, dank and infrequently used or enjoyed.

Lunchtime use is concentrated around rock outcroppings and what turf remains. The picnic area south of the Carousel is popular with school groups, even though summer winds swirl dust from the clay infields through the area.

The original composition of the landforms in the Southwest Corner still exists. However, as has been noted, much of the spatial design has been compromised over the years. Only 4.5 of the original 10.5 acres of open meadow remain, along with a few open glades. Trees planted closely together in the past have not been thinned or transplanted, and because of excessive competition, the turf has died out in many places, particularly behind the Maine Monument.

There are few specimen quality trees in the area, and most of the understory and shrub material that remains is old, scraggly and cannot hold the topsoil in place. Much of the edge is not planted thickly enough to filter out the sights and sounds of the city.



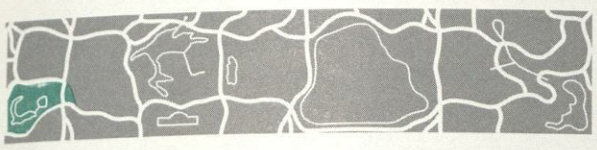
The Sophie Loeb Fountain newly installed, 1936.

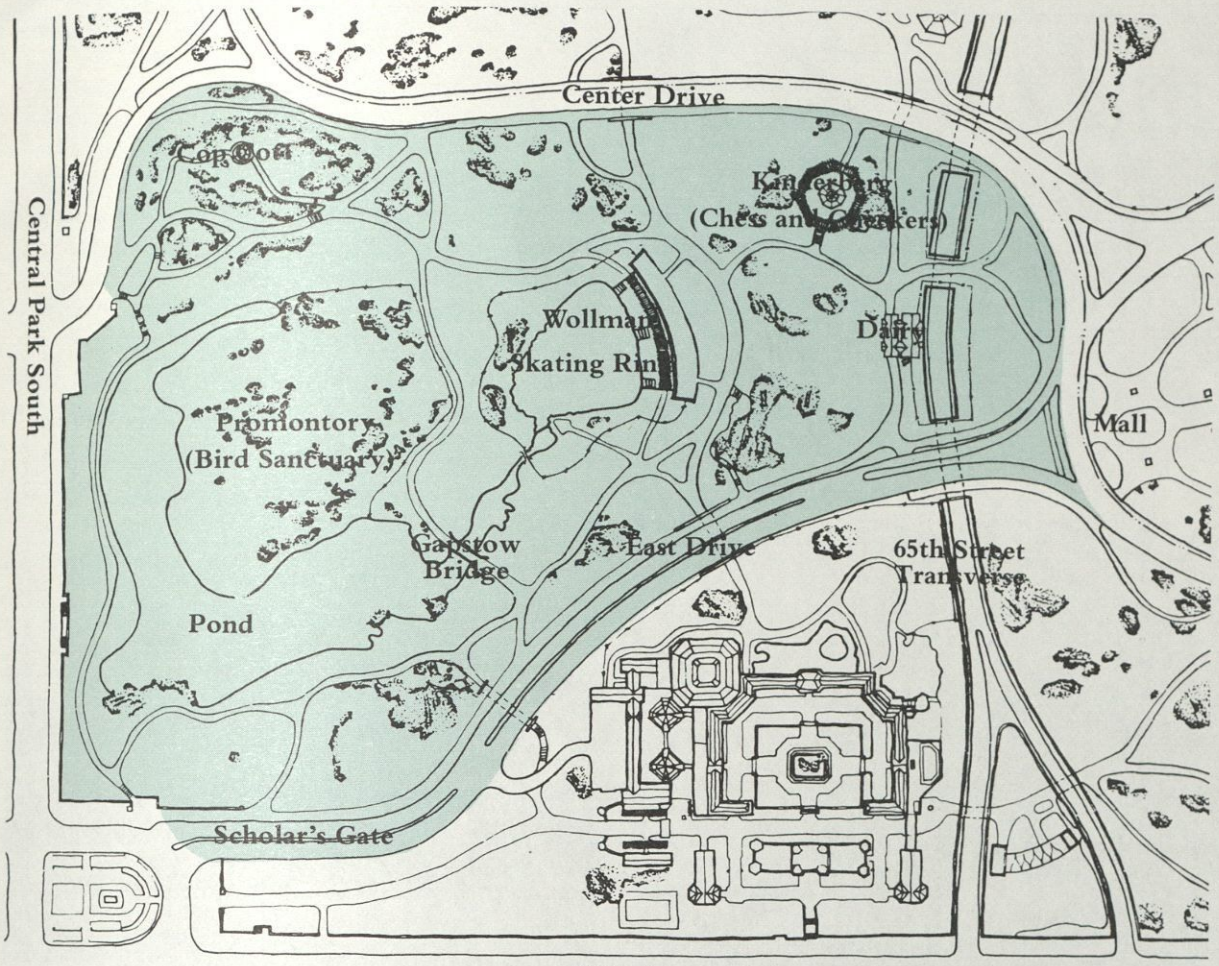
The Sophie Loeb Fountain today: fountain broken, trees grown too close together and seating area dank and unused.

Recommendations

- Though the Ball Ground meadow is now exclusively devoted to sports use, there is still an opportunity to integrate the landscape here more effectively into the visual experience of the Park. Through appropriate planting and tree removal, the edge of the Meadow and the bedrock outcrops should be redefined along their original lines.
- The existing management of the ballfields should be continued—with playing by permit only, and with a daily recorded telephone message announcing whether fields are open or closed, depending on weather conditions. At some point in the future, the entire meadow should be irrigated with an automatic system so that maintenance time can be reduced and the fields kept in play for more hours.
- Redundant walkways should be removed to reduce the present piecemeal character of the landscape.
- Japanese knotweed should be controlled. A dense shrub border should be planted to screen the adjacent city. All soil should be enriched, regraded and reseeded.
- The six underground masonry arches should be rehabilitated and their watersheds restored. (Pinebank, the only remaining cast-iron bridge in this area, is already under restoration.) Overgrown shrub and understory material around arches should be removed and replaced with species that are able to hold topsoil and that allow for a better visual connection from the walkways to the arches. Trees should be removed to allow more sunlight to penetrate the slopes and the arches themselves.
- The inappropriately placed Sophie Loeb Fountain should be removed and relocated to another area of the Park. The plaza it occupies should be returned to turf.
- The center area of the Heckscher Playground should be returned to turf, since it is little used now, and the high chain-link fences should be replaced with a four-foot-high steel picket fence.
- Pedestrian circulation throughout the whole area should be redefined. Though the historic circulation plan can be kept in much of its original form, new or redesigned walkways should substantially increase direct connections with important destinations in the Park. In keeping with the recommendation to remove the Bridle Trail from the West Side below 86th Street, the segment from 60th to 67th streets should be turned into a pedestrian walk connected with paths that run north and northeast. Fences should be used to reduce errant circulation.
- The proposed restructuring of the circulation system means that underground drainage, electrical and potable-water systems associated with the walkways (for pathlights and drinking fountains) would have to be reconstructed. New benches should be placed along the new paths and concentrated in areas that offer good views of people at play.
- At Merchants' Gate behind Maine Monument, a 150-foot-long wall with piers—in the style of the existing adjacent walls—should be constructed to control and direct entrance traffic from this corner. The granite block pavement now behind the monument should be removed and replaced with hexagonal blocks so that the entire plaza is visually united.
- The Carousel building has been restored recently, inside and out, but work did not include the paved waiting area outside. This should be included in the contract for the adjacent landscape rehabilitation. The food concession, which is poorly positioned, should be relocated to the site of the former Ballplayers House, and a building should be constructed there in the same design spirit as the original.
- The meadow adjacent to the western edge of the Park near 65th Street should be permitted for private school use during the school year but should be kept unprogrammed at all other times.
- A security presence is essential at the Southwest Corner both at the Columbus Circle area and at the 60th Street comfort station. There are several options: a ranger could be stationed at a temporary kiosk to answer questions, and a rest-room attendant could be placed at the comfort station; the comfort station could double as an information station with a ranger in attendance to answer questions and provide security; the comfort station could remain closed, to be used as a storage area.
- The rest rooms at the Heckscher Playground should be renovated.

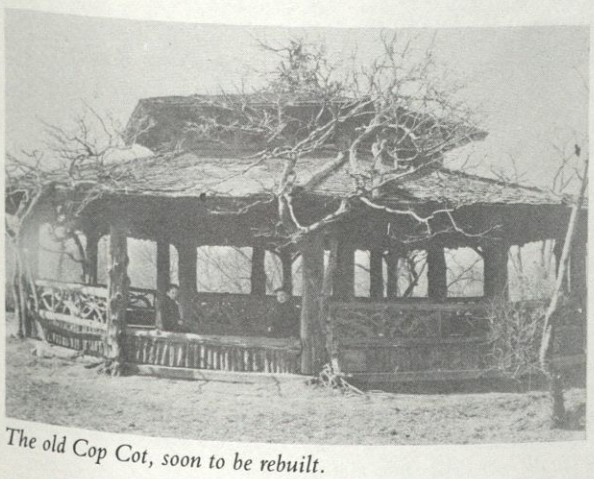
The Southeast Corner





Historically, the Southeast Corner has always been the most important entrance into Central Park. In the early years, when the city still lay some distance to the south, it was fashionable to ride by carriage into the Park at 59th Street and Fifth Avenue and parade up the Drive to the Mall. Today, with the towers of Midtown looming above, almost half of all the Park visitors still enter at this point—office workers, shoppers, tourists—about 6 million people a year.

The Southeast Corner project area as a whole is bounded by Central Park South and the East and Center drives. Before it was developed, the site was a varied landscape: low-lying swampland and steep slopes crowned by craggy rock outcrops. This inhospitable terrain was occupied by squatters, farmers and foul-smelling industries. At Olmsted and Vaux's direction, the swamp was excavated and turned into a pond with an irregular shoreline that included a sandy beach at the southern shore. "The picturesque effect of the bold bluffs that run down to [the Pond's] edge and overhang it must be increased," Olmsted wrote. "In the rugged portion, stiffer forms of evergreen trees [hemlock, Black Spruce, Norway Spruce, European larch, Scotch fir, etc.] will best accord with and set off the picturesque rocks. . . .In the more sheltered low ground, the Deciduous Cypress, the White Cedar. . ." Olmsted accented the rock outcrops along the Drive, increasing their height with soil and plantings in order to give variety to the horizon line and to draw attention inward toward the Mall.



The old Cop Cot, soon to be rebuilt.

Olmsted and Vaux designated the South End of the Park as the Children's District, because it could be reached most conveniently. In those days, New Yorkers were frightened by the increase of infant mortality in midsummer, and the Park was considered a viable substitute for a fresh-air ride in the country. To this end, several attractions were built. The Kinderberg and the Cop Cot were rustic open-air structures on top of rock outcrops. The Dairy, a gray stone Victorian building nearby, dispensed fresh milk at a moderate charge, and on hot days mothers and children enjoyed the shade of its broad loggia and the breezes wafting up from the Pond. These features, together with the nearby ballground and Carousel, made this part of the Park indeed a delight for children.

Changes

The Pond has served as a setting over the years for boating and skating. In its early days, rowboats could be rented, and a swanboat took passengers for rides. Calcium lights made nighttime skating possible in 1912, and in the 1920s the Pond was the scene of a winter carnival.

The Pond's bottom was lined with cement in 1903, when, in fact, all the Park's water bodies became suspect as malaria breeding grounds. The shoreline was given a new "natural" rock edge in 1928. In 1934, both the Pond and the 4-acre Promontory at the western end were set aside as a bird sanctuary. Then in 1951, the eastern arm of the Pond was filled in to become the site of the Wollman Skating Rink. This structure, while immediately popular, represented an encroachment upon the pastoral setting surrounding the Pond, and it caused the Bridle Trail to terminate abruptly in a cul-de-sac, rather than as before at Scholars' Gate. Fortunately, further encroachment was avoided in the early 1960s, when a citizen's protest prevented the building of the Huntington Hartford Café just inside the Park at Fifth Avenue and 59th Street.

In the 1970s, Wollman Rink was the site of popular music concerts. With their overflow crowds of up to 30,000 people, the concerts damaged the slab supporting the rink and spilled out onto the adjacent slope, destroying the grass and creating severe erosion.

Large-scale reconstruction of the Southeast Corner began in 1979. The Pond was dredged, and a rubble-rock edge set with mortar was installed. Both the rock edge and the landscaping around the Pond have an artificial look, contrary to their original appearance.

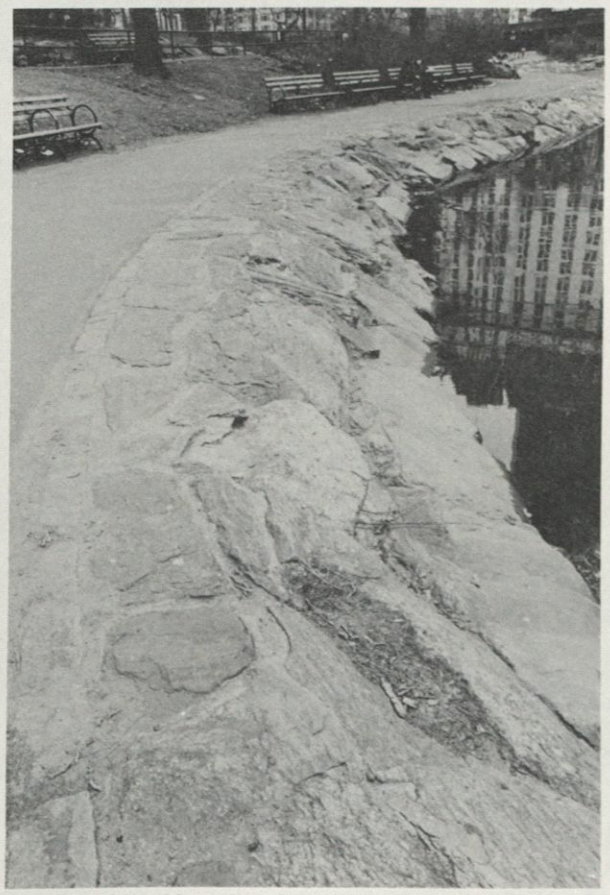
The reconstruction of Wollman Rink and its surrounding landscape is currently under way. The slab of the new rink is nestled gracefully into its site this time, and it can be flooded in summer to make it seem as though it is, once again, part of the Pond. The rooftop playground and superstructure housing a comfort station are being removed, thereby visually reuniting the Pond and the Dairy.

Both the rustic Cop Cot and the Kinderberg were razed many years ago, after having fallen into disrepair. The octagonal Chess and Checkers Building was built on the site of the Kinderberg in 1952. The Dairy, which had also become dilapidated and was being used as a Park maintenance storage facility, was completely restored in 1979. It is now a visitor information center, an exhibition space and the setting for meetings and social events.

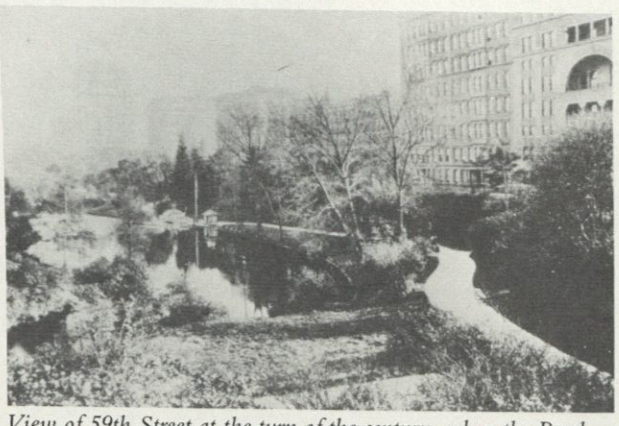
There is a daily rhythm to the ebb and flow of visitors to the Southeast Corner. In the early morning and again in the evening, a wave of pedestrian commuters moves though the area on their way to and from Midtown. At lunchtime in warm weather, the benches, rocks and lawns around the Pond are filled with Midtown office workers.

Recommendations

- The heavily "engineered" look of the recent landscape restoration, including the hard edge of the Pond, should be softened with vegetation. Vines should be planted on and near the walls on the south and west sides of the Drive. Planting pockets should be created by the removal of some of the



The restored Pond has a heavily engineered rip-rap edge that should be softened with vegetation to look more natural.

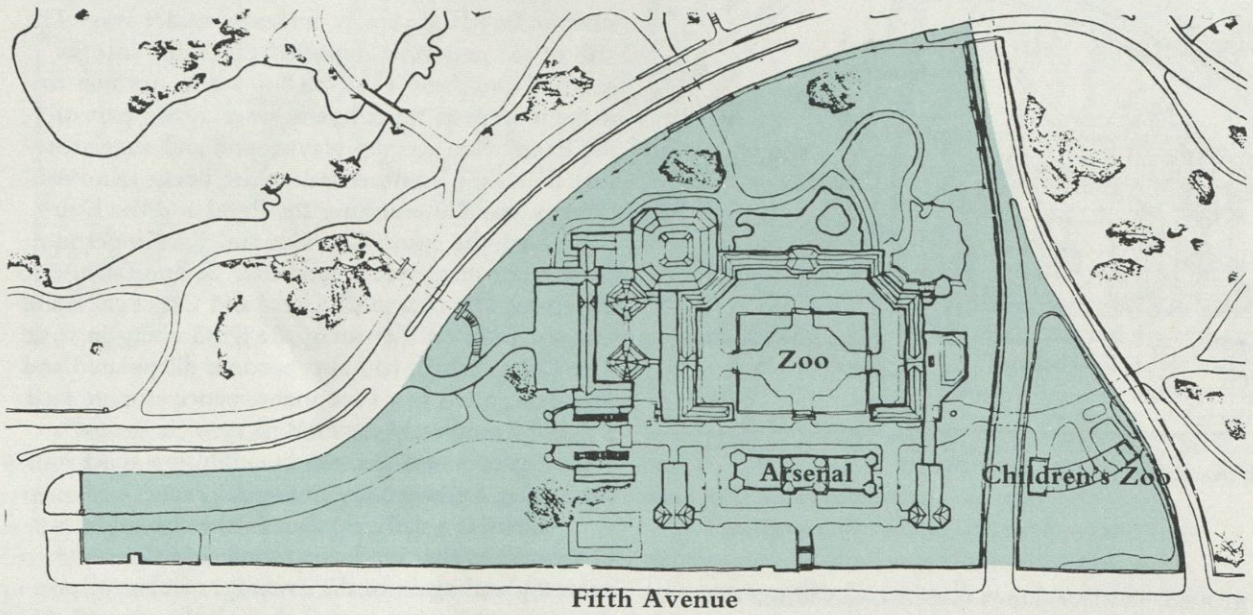


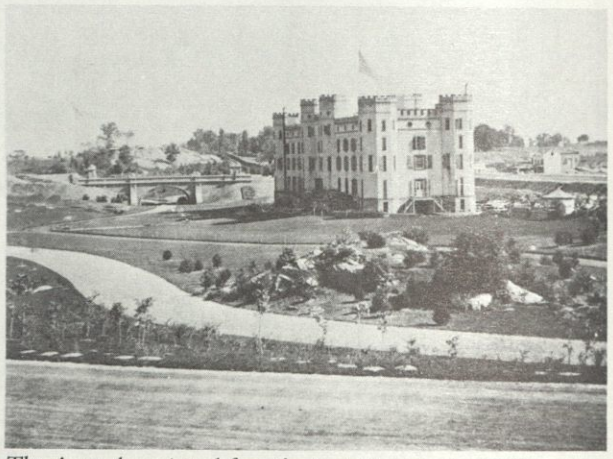
View of 59th Street at the turn of the century, when the Pond was rimmed with a natural embankment and lush vegetation.

stones within the rubble-stone facing of the Pond; shrubs, vines, grasses and emergent vegetation should be planted in them. Some of the excessive paving created by the duplicate path system should be removed. So should the heavy concrete curbs. Large natural-looking boulders should replace the rubble walls set into the hillsides for erosion control.

- The landscape around the Dairy and the Chess and Checkers Building should be regraded and replanted; pathways should be realigned and edged with shrubs or pipe-rail fencing to discourage off-path traffic.
- The Promontory's value as a bird sanctuary should be further enhanced by the addition of food-producing plants and more ground cover. The tree canopy should be opened up in places to permit growth of the understory. The prohibition against general public access to the Promontory should continue, but the program of guided nature tours and study groups should be expanded.
- The Cop Cot should be rebuilt on its former site.
- The Chess and Checkers Building has been repaired, and a schedule of activities is being prepared. To complete the restoration, an arbor evocative of the original structure should be built around the perimeter of the platform to shade the chess players.

The Arsenal and the Zoo





The Arsenal as viewed from the East Drive in the 1860s.

The Arsenal is one of two buildings in Central Park that are older than the Park itself (the other being the Blockhouse at 110th Street). Built in 1848 as a munitions supply depot, the Arsenal originally stood alone in vacant, rubble-strewn terrain just west of Fifth Avenue at 64th Street.

Though the Arsenal was a picturesque brick structure with castellated Norman towers, Central Park's designers, Olmsted and Vaux, considered it fairly unattractive. For this reason, they planted trees around it that would grow into large, handsome specimens and reduce its impact on the landscape. In 1871, Boss Tweed had the Arsenal's facade covered with stucco and its turrets topped with pointed wooden towers. Sixty-three years later, Robert Moses ordered the stucco sandblasted off and the wooden towers replaced with concrete battlements. At the same time, he commissioned the murals for the entrance hall.

Aside from its military function, the Arsenal has at one time or another housed a livery stable, the Museum of Natural History and the U.S. Weather Service Station for New York. It now serves as the administrative headquarters for the Parks Department.

The Zoo behind the Arsenal was not built until 1934. Olmsted and Vaux had long resisted pressure to include any zoo in the Park. Reluctantly, they drew up plans for four different sites, and work was started and abandoned at all of them. In the meantime, animals were kept in the Arsenal's basement menagerie or in a succession of makeshift wooden sheds outside. Robert Moses finally got the Zoo built in his first year as Parks Commissioner, and it quickly became the most frequently visited feature in the Park.

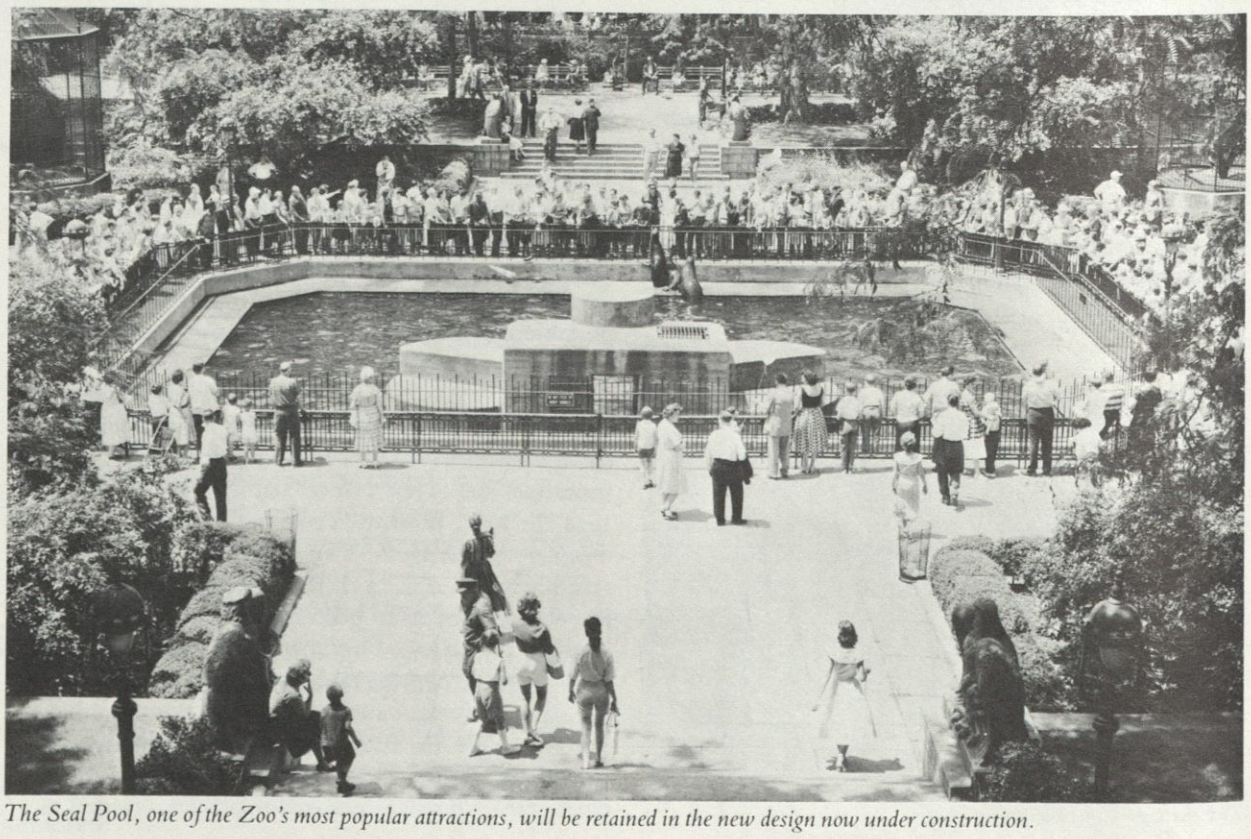
Currently, the Zoo is closed and being rebuilt according to a design that will allow the animals greater freedom of movement. Four buildings of the old Zoo will be kept for new uses: the Monkey House as a Zoo school and education center; the Birdhouse as a gift shop and exhibition space; and the Deer House and the garage as administrative offices. The Parks Department will relinquish jurisdiction over the redesigned Zoo to the New York Zoological Society.

The Children's Zoo is located in the triangle of land formed by the entrances to the 65th Street transverse. It was built in 1960, a gift of Governor and Mrs. Herbert H. Lehman. Its buildings are designed as Disneyland-style nursery rhyme settings. The gates, installed in 1961, were created by sculptor Paul Manship.

The Arsenal-Zoo project area as a whole extends along the eastern perimeter of the Park from Grand Army Plaza to the 65th Street transverse. It is a popular corner of the Park, particularly in the summer. Some work has already been done to restore its landscape. In 1982-83, the lawn between the East Drive and the walkway was resodded and fenced, and new perimeter plantings were installed.

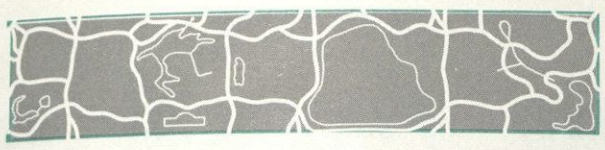
Recommendations

- The four arches within the project area—Denesmouth, Inscope, Greengap and a vehicular overpass next to the Children's Zoo—require masonry and landscape restoration work.
- Walkway reconstruction and bench replacement are needed below 64th Street.



The Seal Pool, one of the Zoo's most popular attractions, will be retained in the new design now under construction.

The Perimeter

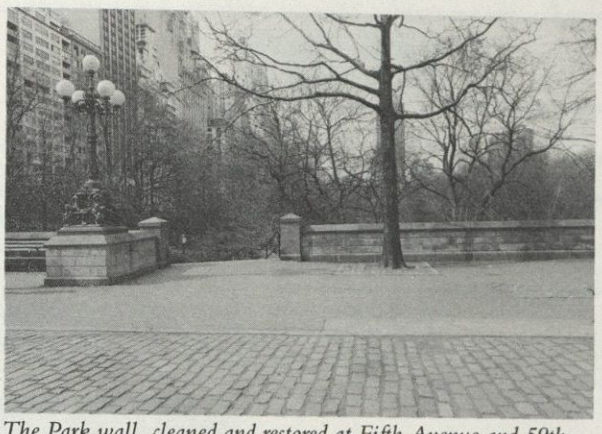


Central Park's rusticated stone wall—plain, understated and less than four feet high—may appear to the casual observer to have been a mere afterthought. Such was not the case.

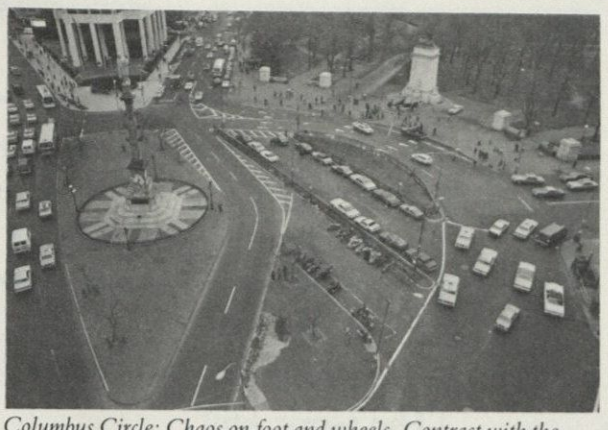
Olmsted and Vaux insisted that the Park's perimeter be of a scale and design compatible with the naturalistic character of the Park itself. A formal wrought-iron fence would not have been appropriate. Neither would a monumental work of sculptured stone. So strongly did the two men feel about this, in fact, that they resigned in 1863 when it appeared that a wall with grandiose, ceremonial gates by the sculptor Richard Morris Hunt might be built instead. The Park Committee came around to Olmsted and Vaux's point of view two years later and reappointed them to work on the Park.

Olmsted's concept for the border included a broad, tree-shaded walk, a simple low wall and just inside the wall a planted edge, which in combination with the street trees would provide a substantial visual barrier between the Park and the city. Stately American elms were planted in *allées* along the streets on all four sides of the Park.

Traffic circles at each of the Park's four corners signified major entrances. The two at the South End—Grand Army Plaza (59th Street and Fifth Avenue) and Columbus Circle (59th Street and Central Park West)—were designed to serve both vehicles and pedestrians. The two at the north—Frawley Circle (at 110th Street and Fifth Avenue) and Frederick Douglass Circle (110th Street and Central Park West)—were for pedestrian use only.



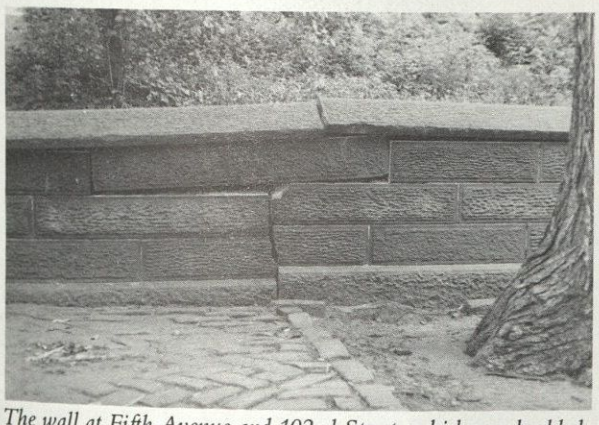
The Park wall, cleaned and restored at Fifth Avenue and 59th Street.



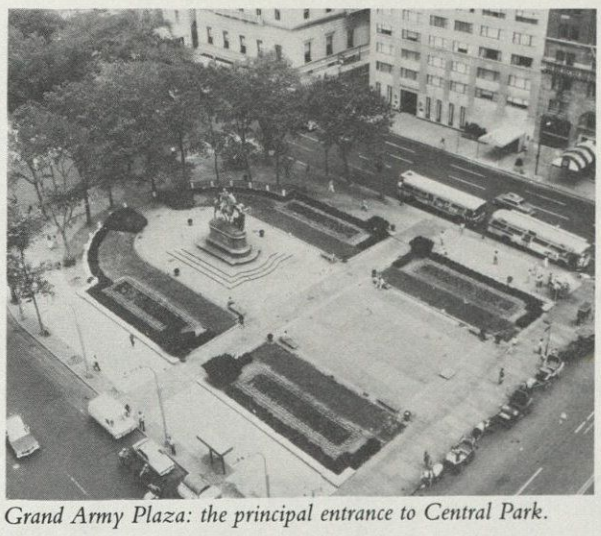
Columbus Circle: Chaos on foot and wheels. Contrast with the photo at top of the page—same view, early 1900s.

As for the circles, neither of those at the northern end is particularly distinguished; in fact, they could be described as bleak.

At the Park's southern end, Columbus Circle has become a major traffic rotary, jarring physically as well as aesthetically. Continuations of Broadway and Eighth Avenue have been sliced through the center of the circle and parking islands installed. The space is cluttered, its symmetry ruined, and traffic is confused and hazardous. The statue of Christopher Columbus in the center, surrounded by its pool and fountains, has been challenged by grandiose embellishment on the Park side—the Beaux Arts Maine Monument, erected in 1913. A second vehicular entrance to the Park has been sealed off, further confusing the pattern of circulation.



The wall at Fifth Avenue and 102nd Street, which was buckled by tree roots, has been mended.



Grand Army Plaza: the principal entrance to Central Park.

topped by a statue of Pomona, the goddess of abundance, is a graceful ornament in the south plaza. The fountain, however, has ceased to function; its stonework is broken, and the surrounding space is in need of repaving and relandscaping.

Existing Conditions

The present condition of the wall ranges from good to poor. In some locations, erosion inside the Park has exposed the wall's foundations; in other places, the opposite has happened—soil has washed down slopes and piled up against the wall, heaving its blocks out of place. Often where drainage has broken down, water seeps through the wall, as it does rather copiously at 85th and 96th streets on Fifth Avenue.

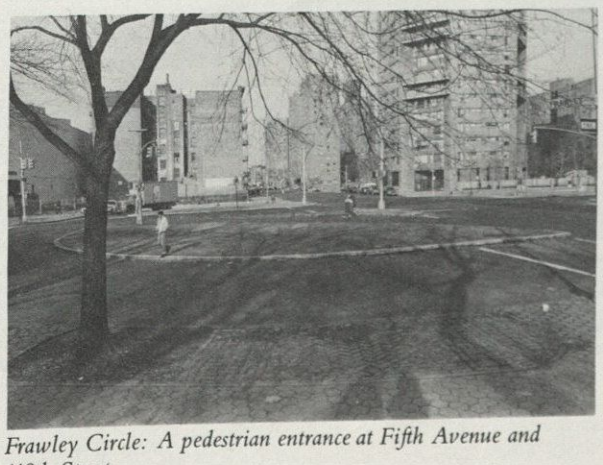
Graffiti is now being removed routinely, but excessive moisture, which causes the growth of algae, fungi, moss and climbing plants, is causing mortar to crumble and stone to disintegrate. New entrances have been cut into the wall over the years, so that instead of the original 17 there are now 60. The vehicular entrances added on Central Park South at Sixth and Seventh avenues and the one at Frederick Douglass Circle have changed the character of the Park considerably.

The border of elms has not survived intact. It is still in evidence on Fifth Avenue. However, ginkgo trees run across both Central Park South and 110th Street, their spare columnar form providing neither the shade nor the cathedral-like effect of the elm *allée*. Central Park West now has a variety of oaks pruned to high, round heads.

From a design point of view, Grand Army Plaza is the only successful Park corner. It is a major focus of midtown Manhattan and an elegant urban space. The statue of William Tecumseh Sherman by Augustus Saint-Gaudens in the north plaza is considered one of the great American equestrian monuments. The Pulitzer Fountain,

Recommendations

- Major reconstruction of the wall is required at several locations: on Central Park West between 61st and 62nd streets, between 82nd and 84th streets and between 103rd and 106th streets; on Fifth Avenue between 100th and 102nd streets.
- The entire wall should be repointed.
- Large tree roots that are causing the wall to buckle should be cut back. If doing so will harm the tree, a bridge should be constructed to pass over the root.
- The ginkgoes on 110th and 59th streets should be replaced with trees that are more graceful in form and able to provide shade and a visual screen between the Park and the street.
- *Grand Army Plaza.* Restoration of this great space is currently being planned.
- *Columbus Circle.* The chaotic traffic situation must be studied and a remedy devised so that the circle can once again become a smoothly functioning "Place d'Etoile" of New York City.
- *Frawley Circle.* The boathouse and Meer promise to become major attractions, and the circle should be redesigned accordingly. The proposed statue of Duke Ellington will enhance this entrance and make it an important gateway to the Park and to Harlem as well.
- *Frederick Douglass Circle.* A statue of Frederick Douglass would be an appropriate feature here, since the circle already bears his name. In the long term, the vehicular entrance here should be closed, the edge landscape raised to street level and the entrance turned into a major, and very inviting, pedestrian walkway into the Park.

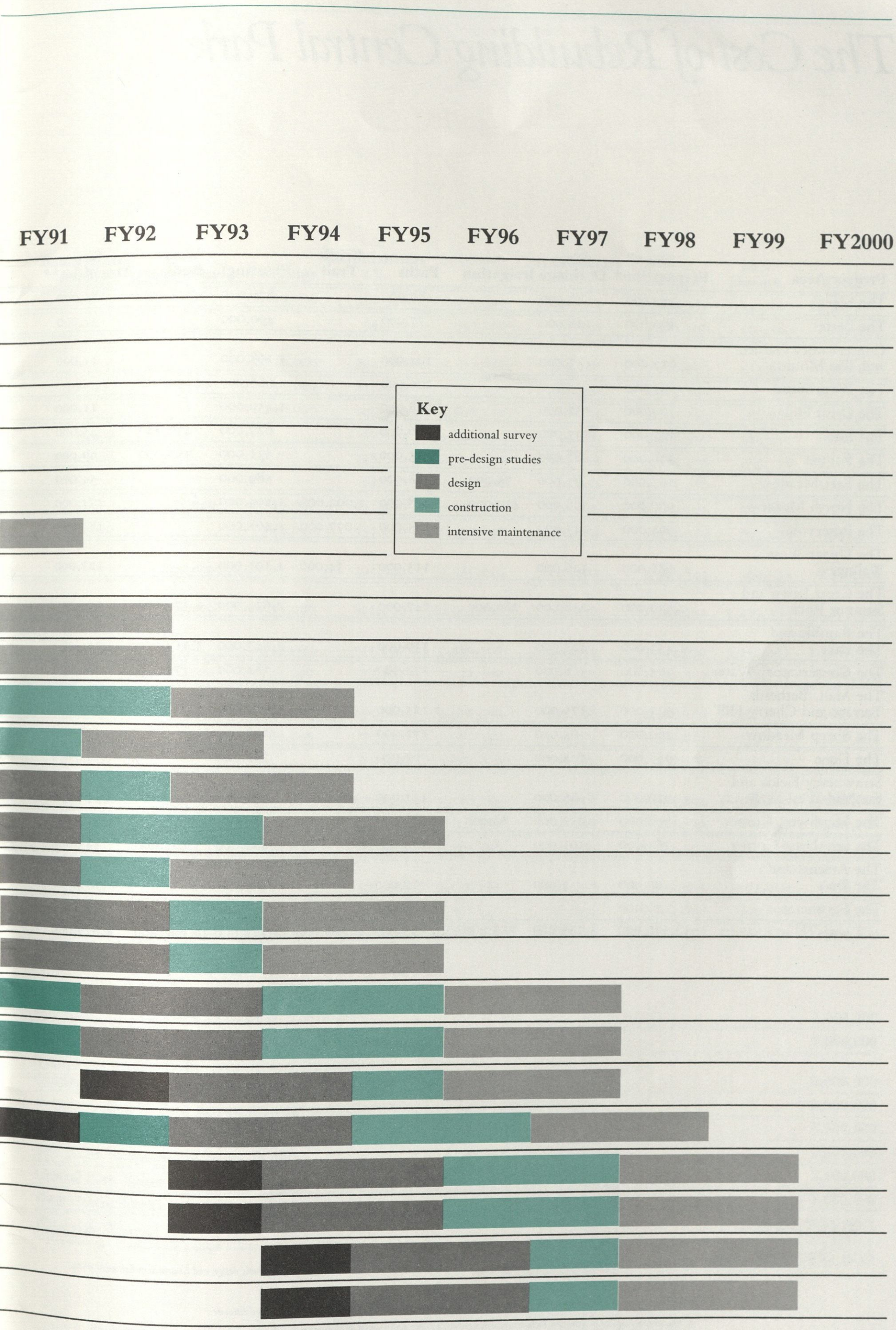


Frawley Circle: A pedestrian entrance at Fifth Avenue and 110th Street.

Fredrick Douglass Circle: Park entrance should be redesigned for pedestrians.

Project Phasing Chart

Project	FY85	FY86	FY87	FY88	FY89	FY90
in progress: Phase II Water Supply						
in progress: The Dairy/Wollman Landscape						
in progress: 110th Street Boathouse						
in progress: The Mall						
in progress: The Great Hill						
in progress: The Great Lawn						
The North Meadow						
Phase III Water Supply						
The Southwest Corner						
The Pool						
The Ramble						
Strawberry Fields and The Midwest Walkway						
Conservatory Garden and The Mount						
The Forts						
Summit Rock (Great Lawn II)						
The Reservoir and The Upper West Walkway						
The Dene						
The Ravine						
The Lake						
The Conservatory Water						
The Blockhouse						
The Meer						
The Southeast Corner						
The East Meadow						
The Sheep Meadow						


FY91
FY92
FY93
FY94
FY95
FY96
FY97
FY98
FY99
FY2000
Key
additional survey
pre-design studies
design
construction
intensive maintenance

The Cost of Rebuilding Central Park

Project Area	Site Preparation*	Site Drainage	Irrigation	Paths	Bridle Trail	Planting	Water Bodies	Site Amenities**
The Meer	340,000	47,000		180,000		876,000	1,711,000	185,000
The Forts	176,000	128,000		77,000		490,000		32,000
Conservatory Garden and The Mount	212,000	53,000		194,000		1,168,000		11,000
The Blockhouse	622,000			200,000		1,608,000	100,000	
The Great Hill	379,000	152,000		208,000		1,459,000		11,000
The Pool	123,000	133,000		66,000		627,000	456,000	45,000
The Ravine	320,000	88,000		75,000		531,000	350,000	69,000
The East Meadow	163,000	91,000	75,000	88,000		589,000		54,000
The North Meadow	907,000	298,000	420,000	218,000	1,092,000	2,204,000		174,000
The Reservoir	965,000	243,000		185,000	2,077,000	1,468,000		182,000
The Upper West Walkway	681,000	126,000		115,000	34,000	1,101,000		127,000
The Great Lawn and Summit Rock	2,539,000	248,000	280,000	747,000		2,624,000	2,372,000	174,000
The Ramble and The Lake	1,453,000	428,000		339,000		2,847,000	3,314,000	231,000
The Conservatory Water	405,000	318,000		279,000		184,000	375,000	206,000
The Mall, Bethesda Terrace and Cherry Hill	343,000	175,000		1,125,000		565,000		1,203,000
The Sheep Meadow	269,000	65,000		172,000		208,000		398,000
The Dene	211,000	102,000		63,000		232,000		72,000
Strawberry Fields and the Mid-West Walkway	926,000	86,000		131,000		829,000	519,000	131,000
The Southwest Corner	900,000	250,000	80,000	287,000		2,616,000		322,000
The Southeast Corner	263,000	101,000		578,000		1,823,000	1,405,000	485,000
The Arsenal and The Zoo	90,000	3,000		177,000		487,000		96,000
The Perimeter	229,000			5,489,000		235,000		671,000
Totals* **	**12,516,000**	**3,135,000**	**855,000**	**10,993,000**	**3,203,000**	**24,771,000**	**10,602,000**	**4,879,000**

Notes:

- *This budget is a first stage estimate based on 1984 prices. Further estimates will be done at the schematic design and construction document phases.*
- *Estimates do not include completed projects or those in progress.*
- *Rehabilitation of monuments in the Park is a maintenance item and has not been included in the above estimate.*

* *The category of site preparation includes construction fencing and signs, inclassified excavation, clearing and grubbing, general removals and selective removal of vegetation.*

** *The category of site amenities includes new benches, drinking fountains and fences.*

*** *Totals have been rounded to the nearest thousand dollars.*

Bridges and Arches	Playgrounds	Buildings	Mobilization 6%	Subtotal #1	Contingencies 10%	Subtotal	10% Design	Total***
		6,500,000	590,340	10,429,340	1,042,934	11,472,274	1,147,227	**12,620,000**
			54,180	957,180	95,718	1,052,898	105,289	**1,158,000**
		3,110,000	284,880	5,032,880	503,288	5,536,168	553,617	**6,090,000**
500,000	600,000	35,000	219,900	3,884,900	388,490	4,273,390	427,339	**4,701,000**
		250,000	147,540	2,606,540	260,654	2,867,194	286,719	**3,154,000**
5,000			87,300	1,542,300	154,230	1,696,530	169,653	**1,866,000**
1,050,000			148,980	2,631,980	263,198	2,895,178	289,518	**3,185,000**
			63,600	1,123,600	112,360	1,235,960	123,596	**1,360,000**
	238,000	40,000	335,460	5,926,460	592,646	6,519,106	651,910	**7,171,000**
200,000		644,000	357,840	6,321,840	632,184	6,954,024	695,402	**7,649,000**
	1,200,000		203,040	3,587,040	358,704	3,945,744	394,574	**4,340,000**
900,000	155,000	333,000	622,000	10,994,320	1,099,432	12,093,752	1,209,375	**13,303,000**
14,000		229,000	531,300	9,386,300	938,630	10,324,930	1,032,493	**11,357,000**
350,000	600,000	238,000	177,300	3,132,300	313,230	3,445,530	344,553	**3,790,000**
		850,000	255,660	4,516,660	451,666	4,968,326	496,833	**5,465,000**
		80,000	71,520	1,263,520	126,352	1,389,872	138,987	**1,529,000**
350,000			61,800	1,091,800	109,180	1,200,980	120,098	**1,321,000**
425,000	300,000		200,835	3,548,085	354,808	3,902,894	390,289	**4,293,000**
1,050,000	6,000	250,000	345,660	6,106,660	610,666	6,717,326	671,732	**7,389,000**
		100,000	285,300	5,040,300	504,030	5,544,330	554,433	**6,099,000**
700,000			93,180	1,646,180	164,618	1,810,798	181,079	**1,992,000**
		750,000	442,440	7,816,440	781,644	8,598,084	859,808	**9,458,000**
5,544,000	**3,099,000**	**13,409,000**	**5,580,055**	**98,586,625**	**9,858,662**	**108,445,288**	**10,844,524**	**119,290,000**

Rehabilitation of brick vault sewers:	**2,000,000**
Rehabilitation of water supply system:	**7,000,000**
Transverse Roads: Walls, tunnels, sidewalks: (roadway and drainage are the responsibility of other City agencies)	**2,000,000**
Reconstruction of Park drives: drainage and roadway, including new granite curbs:	**8,000,000**
79th Street Maintenance Yard:	**3,500,000**
86th Street Shops/Maintenance Facility:	**2,500,000**
Central Park Police Precinct:	**2,500,000**
New electric feeder lines:	**3,000,000**
Grand Total	**$149,790,000**
	say: $150,000,000

Fiscal 1985 Projected Central Park Operating Budget

Division	Total Number of Employees	Department of Parks and Recreation Funding: Personnel	Materials and Supplies	Vehicles and Equipment	Total Dept. of Parks Funding	Central Park Conservancy Funding: Personnel	Materials and Supplies	Vehicles and Equipment	Total Conservancy Funding	Total Program Cost
Maintenance & Operations										
Management	0	$0				$0				
Yard (79th Street)	37	$945,057				$26,040	$50,000	$0	$76,040	
Sector Maintenance	39	$984,174				$0				
Children's Zoo	15	$346,589				$0				
Department Wide Crews	9	$236,698				$0				
Overtime/Per Diem	*	$79,003				$0				
Rink & Pool Maintenance	12	$288,007				$0				
Seasonals	56	$370,468				$0				
Maintenance & Operations Sub-Total	**168**	**$3,249,996**	**$76,540**	**$176,000**	**$3,502,536**	**$26,040**	**$50,000**	**$0**	**$76,040**	**$3,578,576**
Horticulture										
Management	2	$22,384				$36,400				
Arboriculture	4	$49,584				$39,713				
Turf Crew	8	$31,238				$94,599				
Soils & Erosion Maintenance	4	$0				$67,032				
Landscape Maintenance	21	$89,375				$236,853				
Volunteer Supervision	3	$31,409				$39,665				
Summer Interns	45	$0				$52,290				
Conservatory Gardens	2					$32,090				
Horticulture Sub-Total	**89**	**$223,990**	**$0**	**$0**	**$223,990**	**$598,642**	**$435,888**	**$0**	**$1,034,530**	**$1,258,520**
Preservation										
Management	2	$71,742				$0	$5,000			
Restoration	9	$101,605				$90,017	$45,000			
Conservation	4	$69,095				$28,200	$20,000			
Seasonals	5	$0				$49,920	$0			
Preservation Sub-Total	**20**	**$242,442**	**$0**	**$145,000**	**$387,442**	**$168,137**	**$70,000**	**$0**	**$238,137**	**$625,579**
Visitor Services										
Management	1	$32,611	$0			$0	$776			
Puppets, Marionettes	16	$82,825	$30,000			$0	$0			
Belvedere	5	$25,873	$0			$49,530	$20,000			
Dairy	4	$0	$0			$67,381	$41,110			
Chess & Checkers	1	$0	$0			$1,200	$500			
Conservatory Gardens	1	$0	$0			$0	$2,500			
Publications	0	$0	$0			$0	$73,400			
Visitor Service Sub-Total	**28**	**$141,309**	**$30,000**	**$0**	**$171,309**	**$118,111**	**$138,286**	**$0**	**$256,397**	**$427,706**
Central Park Security										
Communication Center	11	$300,915								
Night Security	17	$374,587								
Park Enforcement Patrol	32	$705,891								
Urban Park Rangers	9	$202,783	$18,900							
Security Sub-Total	**69**	**$1,584,176**	**$18,900**	**$0**	**$1,603,076**	**$0**	**$0**	**$0**	**$0**	**$1,603,076**
Central Park Administrator's Office	9	$99,930	$0	$0	$99,930	$190,601	$59,500	$0	$250,101	$350,031
Design & Planning	5	$68,120	$0	$0	$68,120	$93,600	$85,000	$0	$178,600	$246,720
Central Park Conservancy Administration	2.5	$0	$0	$0	$0	$89,800	$103,000	$0	$192,800	$192,800
Central Park Conservancy Fund Raising	7.5	$0	$0	$0	$0	$215,400	$308,780	$0	$524,180	$524,180
Total	**398**	**$5,609,962**	**$125,440**	**$321,000**	**$6,056,402**	**$1,500,331**	**$1,250,454**	**$0**	**$2,750,785**	**$8,807,187**

Fiscal 1986 Projected Central Park Operating Budget

Division	Total Number of Employees	Department of Parks and Recreation Funding: Personnel	Materials and Supplies	Vehicles and Equipment	Total Dept. of Parks Funding	Central Park Conservancy Funding: Personnel	Materials and Supplies	Vehicles and Equipment	Total Conservancy Funding	Total Program Cost
Maintenance & Operations										
Management	1	$38,005				$0				
Yard (79th Street)	43	$1,209,834				$27,342	$51,300	$0	$78,642	
Sector Maintenance	71	$1,434,496				$0				
Children's Zoo	19	$852,837				$0				
Department Wide Crews	9	$248,533				$0				
Overtime/Per Diem	*	$82,953				$0				
Rink & Pool Maintenance	22	$759,287				$0				
Seasonals	71	$469,701				$0				
Maintenance & Operations Sub-Total	**236**	**$5,095,646**	**$78,064**	**$118,450**	**$5,292,160**	**$27,342**	**$51,300**	**$0**	**$78,642**	**$5,370,802**
Horticulture										
Management	3	$37,909				$41,866				
Arboriculture	8	$73,993				$103,278				
Turf Crew	9	$46,836				$129,193				
Soils & Erosion Maintenance	10	$154,649				$28,468				
Landscape Maintenance	28	$196,680				$346,890				
Volunteer Supervision	6	$32,980				$101,153				
Summer Interns	45	$0				$77,556				
Conservatory Gardens	5	$0				$95,557				
Horticulture Sub-Total	**114**	**$543,047**	**$237,641**	**$163,430**	**$944,118**	**$923,961**	**$436,219**	**$0**	**$1,360,180**	**$2,304,298**
Preservation										
Management	2	$88,803	$2,575			$0	$2,575			
Restoration	14	$227,507	$15,450			$94,518	$87,550			
Conservation	7	$118,015	$11,845			$29,610	$23,690			
Central Park Shop	7	$241,800	$15,450			$0	$0			
Seasonals	12	$0	$0			$52,416	$0			
Preservation Sub-Total	**42**	**$676,125**	**$45,320**	**$77,250**	**$798,695**	**$176,544**	**$113,815**	**$0**	**$290,359**	**$1,089,054**
Visitor Services										
Management	3	$59,917	$0			$22,680	$6,180			
Puppets, Marionettes	16	$86,220	$30,900			$0	$0			
Belvedere	5	$48,812	$0			$53,897	$22,660			
Dairy	5	$20,229	$0			$58,722	$111,240			
Chess & Checkers	1	$0	$0			$5,040	$7,622			
Conservatory Gardens	1	$0	$0			$4,032	$4,120			
Publications	0	$0	$0			$0	$0			
Visitor Service Sub-Total	**31**	**$215,179**	**$30,900**	**$0**	**$246,079**	**$144,371**	**$151,822**	**$0**	**$296,193**	**$542,272**
Central Park Security										
Communication Center	13	$311,804								
Night Security	21	$490,896								
Park Enforcement Patrol	54	$1,256,470	$58,904	$0						
Urban Park Rangers	13	$304,145	$8,652							
Security Sub-Total	**101**	**$2,363,314**	**$67,556**	**$0**	**$2,430,870**	**$0**	**$0**	**$0**	**$0**	**$2,430,870**
Central Park Administrator's Office	9	$159,946	$0	$0	$159,946	$148,680	$61,285	$0	$209,965	$369,911
Design & Planning	5	$101,665	$110,550	$0	$212,165	$98,200	$87,600	$0	$185,800	$397,965
Central Park Conservancy Administration	2.5	$0	$0	$0	$0	$98,780	$106,090	$0	$204,870	$204,870
Central Park Conservancy Fund Raising	10.5	$0	$0	$0	$0	$325,000	$400,000	$0	$725,000	$725,000
Total	**551**	**$9,154,921**	**$569,981**	**$359,130**	**$10,084,032**	**$1,942,878**	**$1,408,131**	**$0**	**$3,351,009**	**$13,435,042**

Fiscal 1990 Projected Central Park Operating Budget

Division	Total Number of Employees	Department of Parks and Recreation Funding: Personnel	Materials and Supplies	Vehicles and Equipment	Total Dept. of Parks Funding	Central Park Conservancy Funding: Personnel	Materials and Supplies	Vehicles and Equipment	Total Conservancy Funding	Total Program Cost
Maintenance & Operations										
Management	1	$45,245								
Yard (79th Street)	53	$1,554,073				$34,178	$58,995	$0	$93,173	
Sector Maintenance	84	$2,577,736								
Department Wide Crews	9	$310,666								
Overtime/Per Diem	*	$103,691								
Rink & Pool Maintenance	34	$982,872								
Seasonals	81	$669,819								
Maintenance & Operations Sub-Total	**262**	**$6,244,103**	**$83,184**	**$115,000**	**$6,442,287**	**$34,178**	**$58,995**	**$0**	**$93,173**	**$6,535,460**
Horticulture										
Management	3	$72,570				$21,840				
Arboriculture	14	$276,752				$81,535				
Turf Crew	12	$139,825				$142,686				
Soils & Erosion Maintenance	40	$184,106				$33,890				
Landscape Maintenance	10	$49,819				$468,826				
Volunteer Supervision	10	$163,688				$83,514				
Summer Interns	45	$0				$92,329				
Conservatory Gardens	4	$0				$94,620				
Horticulture Sub-Total	**138**	**$886,761**	**$911,950**	**$189,750**	**$1,988,461**	**$1,019,240**	**$495,625**	**$0**	**$1,514,865**	**$3,503,326**
Preservation										
Management	3	$199,847	$5,750			$0	$11,500			
Restoration	15	$247,933	$57,500			$228,263	$11,500			
Conservation	9	$200,406	$43,125			$92,253	$46,875			
Seasonals	12	$0	$0			$0	$0			
Central Park Shop	7	$287,898	$17,250			$47,694	$0			
Preservation Sub-Total	**46**	**$936,083**	**$123,625**	**$57,500**	**$1,117,208**	**$368,210**	**$69,875**	**$57,500**	**$495,585**	**$1,612,793**
Visitor Services										
Management	6	$95,412				$75,750	$130,525			
Puppets, Marionettes	4	$120,483				$0	$28,750			
Belvedere	5	$84,991				$45,555	$36,800			
Dairy	5	$58,109				$63,555	$46,575			
Chess & Checkers	1	$0				$24,000	$1,150			
Conservatory Gardens	1	$0				$24,000	$4,600			
Publications	0	$0				$0	$123,050			
Visitor Service Sub-Total	**22**	**$358,996**	**$0**	**$0**	**$358,996**	**$232,860**	**$371,450**	**$0**	**$604,310**	**$963,306**
Central Park Security										
Communication Center	17	$407,248	$0							
Night Security	24	$661,925	$0							
Park Enforcement Patrol	65	$1,803,571	$32,883							
Urban Park Rangers	22	$615,557	$88,550							
Security Sub-Total	**128**	**$3,488,301**	**$121,433**	**$0**	**$3,609,734**	**$0**	**$0**	**$0**	**$0**	**$3,609,734**
Central Park Administrators' Office	9	$199,933	$0	$0	$199,902	$185,850	$70,478	$0	$256,328	$456,230
Design & Planning	7	$126,000	$120,750	$0	$246,750	$129,000	$120,750	$0	$249,750	$496,500
Central Park Conservancy Administration	2.5	$0	$0	$0	$0	$123,475	$122,004	$0	$245,479	$245,479
Central Park Conservancy Fund Raising	10.5	$0	$0	$0	$0	$455,000	$560,000	$0	$1,015,000	$1,015,000
Total	**625**	**$12,240,176**	**$1,360,942**	**$362,250**	**$13,963,338**	**$2,547,813**	**$1,869,176**	**$57,500**	**$4,474,490**	**$18,437,828**

Fiscal 1995 Projected Central Park Operating Budget

Division	Total Number of Employees	Department of Parks and Recreation Funding: Personnel	Materials and Supplies	Vehicles and Equipment	Total Dept. of Parks Funding	Central Park Conservancy Funding: Personnel	Materials and Supplies	Vehicles and Equipment	Total Conservancy Funding	Total Program Cost
Maintenance & Operations										
Management	1	$54,293				$0				
Yard (79th Street)	63	$2,368,822				$51,267	$76,694	$0	$127,961	
Sector Maintenance	86	$3,039,048				$0				
Department Wide Crews	12	$549,806				$0				
Overtime/Per Diem	*	$63,953				$0				
Rink & Pool Maintenance	34	$1,202,968				$0				
Seasonals	91	$868,696				$0				
Maintenance & Operations Sub-Total	**287**	**$8,147,585**	**$108,485**	**$175,500**	**$8,431,570**	**$51,267**	**$76,694**	**$0**	**$127,961**	**$8,559,531**
Horticulture										
Management	3	$87,085				$26,208				
Arboriculture	14	$332,102				$97,842				
Turf Crew	12	$167,791				$171,224				
Soils & Erosion Maintenance	10	$220,926				$40,668				
Landscape Maintenance	40	$59,784				$562,592				
Volunteer Supervision	10	$196,426				$100,217				
Summer Interns	45	$0				$110,795				
Conservatory Gardens	4	$0				$113,544				
Horticulture Sub-Total	**138**	**$1,064,114**	**$1,030,900**	**$214,500**	**$2,309,514**	**$1,223,088**	**$357,032**	**$0**	**$1,580,120**	**$3,889,634**
Preservation										
Management	2	$116,505	$3,250			$0	$3,250			
Restoration	15	$143,700	$45,500			$92,253	$84,500			
Conservation	9	$240,488	$162,500			$0	$162,500			
Seasonals	12	$0	$0			$0	$0			
Central Park Shop	6	$296,081	$26,000			$134,400	$0			
Preservation Sub-Total	**44**	**$796,774**	**$237,250**	**$52,000**	**$1,086,024**	**$226,653**	**$250,250**	**$0**	**$476,903**	**$1,562,927**
Visitor Services										
Management	6	$146,754				$67,830	$17,550			
Puppets, Marionettes	4	$144,579				$0	$32,500			
Belvedere	5	$101,990				$60,588	$35,100			
Dairy	5	$69,731				$84,528	$65,650			
Chess & Checkers	1	$31,282				$0	$1,300			
Conservatory Gardens	1	$31,282				$0	$5,200			
Publications	0	$0				$0	$285,350			
Visitor Service Sub-Total	**22**	**$525,617**	**$0**	**$0**	**$525,617**	**$212,946**	**$442,650**	**$0**	**$655,596**	**$1,181,213**
Central Park Security										
Communication Center	17	$488,698	$0	$0						
Night Security	26	$854,393	$0	$0						
Park Enforcement Patrol	67	$2,229,444	$37,172	$0						
Urban Park Rangers	22	$738,668	$100,100	$0						
Security Sub-Total	**132**	**$4,311,203**	**$137,272**	**$0**	**$4,448,475**	**$0**	**$0**	**$0**	**$0**	**$4,448,475**
Central Park Administrator's Office	9	$232,313	$0	$0	$232,313	$278,775	$91,621	$0	$370,396	$602,709
Design & Planning	6	$91,728	$0	$0	$91,728	$154,800	$100,000	$0	$254,800	$346,528
Central Park Conservancy Administration	2.5	$0	$0	$0	$0	$185,213	$270,027	$0	$455,240	$455,240
Central Park Conservancy Fund Raising	10.5	$0	$0	$0	$0	$546,000	$672,000	$0	$1,218,000	$1,218,000
Total	**651**	**$15,169,334**	**$1,513,907**	**$442,000**	**$17,125,242**	**$2,878,742**	**$2,260,274**	**$0**	**$5,139,016**	**$22,264,257**

Notes on the Operating Budgets

Central Park's management costs will rise from $8.8 million in 1985 to $22.3 million in 1995 if the recommendations set forth in this plan are followed. These costs represent a careful calculation of man hours and crew sizes necessary to adequately maintain the Park as it is restored and, in doing so, to protect its $150 million recapitalization and prevent it from deteriorating again. They represent, in addition, a 5 percent inflation factor and cost-of-living increases for employees and a 3 percent inflation factor for vehicles, equipment and supplies.

The budgets presented above anticipate an increased commitment of funds to Central Park from both the Parks Department and the Conservancy. This is realistic and justifiable on the basis of Central Park's status as the city's premier flagship Park within the parks system. Increased management funding for Central Park should provide the impetus for assigning a larger share of the city's budget to the entire park system, which has become derelict through underfunding. (Today, the Parks Department receives less than 1 percent of the city budget, compared with a 2 percent allocation in the 1950s.) The increased portion of the costs assigned to the Conservancy represent the expectation that the private sector commitment to the Park will continue to grow.

The unified New York City/Conservancy budgets presented here break out costs along programmatic lines, allocating to the city those costs that the public treasury should properly bear, and to the Conservancy those that more appropriately belong to the private sector. It is useful to examine these programs more closely.

Maintenance and Operations

"Maintenance and Operations" for the budgetary purposes refers to the crews that perform general Park cleaning and operate recreation facilities and events.

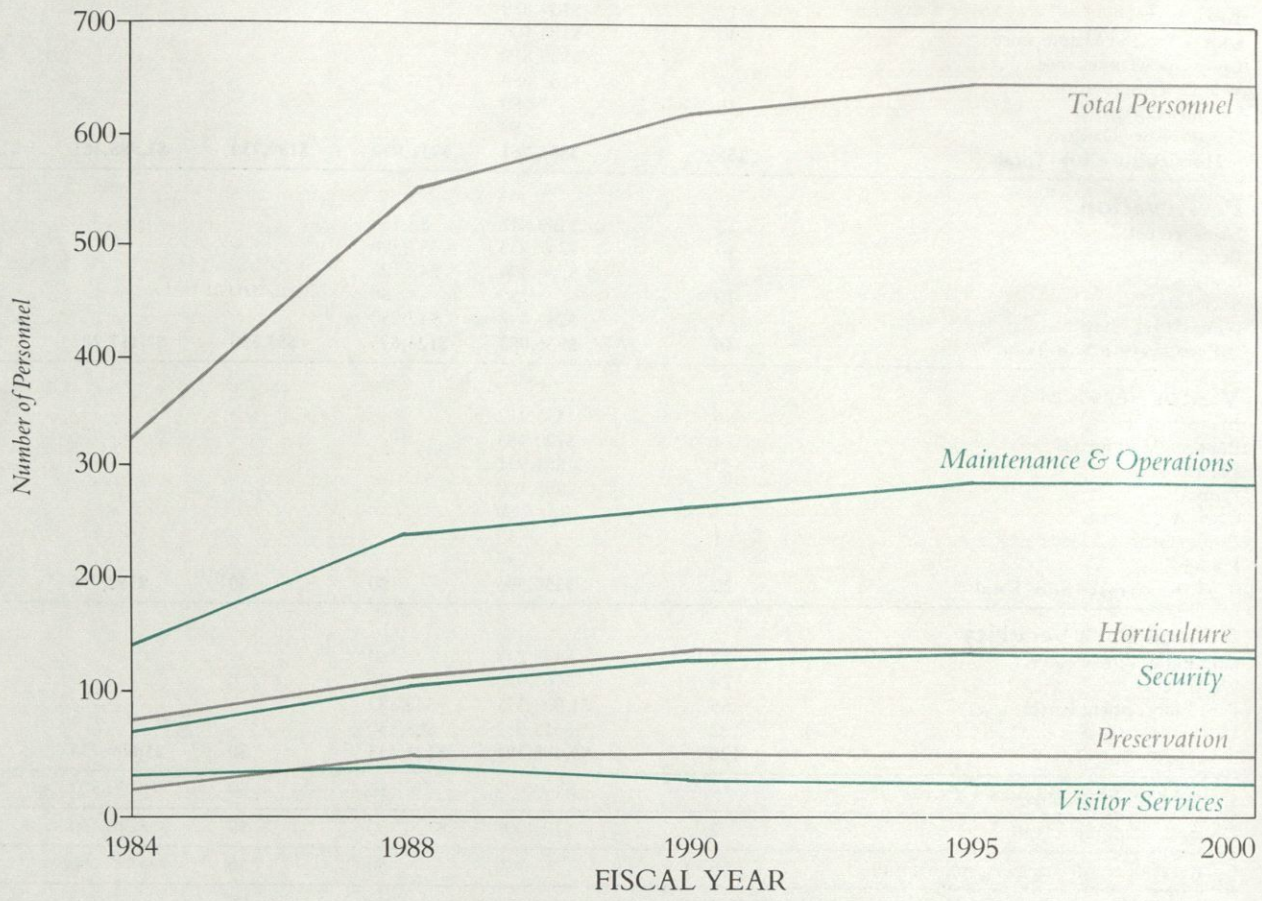
The budgets presented here project a 64 percent increase between now and 1995 of the maintenance and operations personnel in Central Park. Part of this increase redresses the injury that was done to the basic maintenance crews when they were decreased by 19 percent between 1977 and 1984. It must be remembered that, as in the area of security, staffing levels for this sector of the Park budget are not for five, but seven-days-a-week coverage. One-third of this work force are seasonal employees.

Specifically, the budgetary increase for maintenance and operations will allow:

- Rebuilding the section crews by 120 percent, thereby permitting comfort stations to be regularly cleaned and attended throughout the warm weather months, a "handyman" who can perform numerous minor repairs year-round to be assigned to each section, and catch-basin cleaning, water-body cleanup and other functions that are now neglected because of understaffing to be included in the regular work routine.
- Rebuilding of the Yard crew by 70 percent to provide the necessary support services, handle Park events and supplement the section crews in maintaining the Park's drainage systems and water bodies.
- Development of a crew to repair the Bridle Trail and maintain the Reservoir running track.

By 1990 the Central Park Children's Zoo will be maintained by the New York Zoological Society, and it therefore does not appear as an item in the Park budget at that date or thereafter.

Projected Central Park Personnel



Horticulture

An increase of the horticulture crews by 55 percent will allow:

- All Park trees to be regularly pruned on a three- to five-year cycle, threatened elm and Austrian pine populations to receive special care and 1,000 trees per year to be fertilized.
- A growth in turf care from the present level of 35 acres of intensively managed lawn to 80 acres, plus regular mowing of 400 acres during the warm weather.
- The implementation of an erosion control program and an increase in soil analysis from 500 to 1,500 samples annually.
- General landscape maintenance (planting, mulching, pruning, weeding, watering, fencing) for 100 areas of planting beds, a five-fold increase in the amount of shrubs and understory plantings now in Central Park.
- Detailing of specialty or zone gardeners to various sections of the Park such as Conservatory Garden or Strawberry Fields.
- An increase in supervision for the very popular volunteer horticulture program, which is expected to grow.

Visitor Services

A net decrease in Visitor Services personnel can be accounted for by the reorganization of the current puppet and marionette operation after the Swedish Cottage is rehabilitated. Services to Park visitors will actually increase as operations are expanded under the direction of the proposed Central Park Administrator for Visitor Services. These will include the operation of the Chess and Checkers Building, a Children's Theater in the restored Swedish Cottage and general Park programs of education, entertainment and food service at Bethesda Terrace, the Mall, the Great Hill and other outdoor locations. The staffing of the Dairy and the Belvedere will be increased slightly to meet the custodial and janitorial needs of these already successfully run facilities more effectively.

Planning and Design

During the period of major restoration over the next ten years, Central Park will support its own "firm" of designers to produce plans for the projects recommended in this report. The size of the firm reflects the phasing of projects and the volume of design work being done by staff and outside consultants at various points in time. The major capital projects over the next two years—the Mall, Great Lawn and 110th Street Boathouse and landscape—are already being designed by outside consultants; staff designers will concentrate on various small landscape projects, especially those adjacent to the Park's borders and transverse roads. In FY 1987 the in-house design team will be increased from five to six members as a major project, the North Meadow restoration, is undertaken. From 1990 to 1994, four large projects will be designed and supervised by this group, which will reach its maximum size of seven landscape and other architects. Then, as the year 2000 approaches and the restoration of Central Park nears completion, the firm will disband, leaving only a resident landscape architect and an architect/engineer on staff to oversee continuing renovation and general upkeep.

Restoration and Preservation

The crews engaged in preservation work will expand and then contract slightly as the restoration of Central Park nears completion. The overall increase of this work force by 120 percent is accounted for by the creation of a permanent Central Park Shop that can perform routine repairs and the continuation of programs of bronze and masonry conservation, graffiti removal and specialized carpentry.

Security

An increase of 145 percent in ranger coverage of Central Park will provide adequate patrolling of sports fields and lawns to ensure that use regulations are enforced, that a mounted unit is on duty seven days a week and that there is sufficient staffing to cover major events and assist police in controlling drug dealing and other illegal activities in the Park. Additional rangers will also help conduct the popular environmental education programs at the Dairy and the Belvedere.

The Team

Elizabeth Barlow, Central Park Administrator
Elizabeth Barlow received a Master of City Planning degree from Yale University in 1964. A writer on open-space subjects, she has published *The Forests and Wetlands of New York City* (1970, Little, Brown), which was nominated for a National Book Award and won the John Burroughs Medal for excellence in nature writing; *Frederick Law Olmsted's New York* (1972, Whitney Museum/Praeger); and *The Central Park Book* (1977, Central Park Task Force). Since becoming Central Park Administrator in 1979, Ms. Barlow has raised funds and given leadership to the management and restoration of Central Park.

Marianne Cramer, ASLA, Restoration Planner
Marianne Cramer received her Master of Landscape Architecture degree from the University of Georgia, School of Environmental Design, in 1977. In 1979, after working with the Oklahoma Office of Outdoor and Recreation Planning, and later on a user study of Jacob Riis Park, Ms. Cramer joined the Design Division of the New York City Department of Parks and Recreation. In 1982, after completing the plan for the landscape surrounding the Metropolitan Museum of Art, Ms. Cramer was hired by the Central Park Conservancy to be a member of the management and restoration team. Since January 1984, she has served as the president of the New York Chapter of the American Society of Landscape Architects and is a member of the Steering Committee of the National Association of Olmsted Parks.

Judith L. Heintz, ASLA, Restoration Planner
Judith Heintz received a Master of Landscape Architecture degree from the Harvard Graduate School of Design in 1978. In 1980, after working in the private sector and teaching, she joined the Design Division of the New York City Department of Parks and Recreation, where she was given responsibility for design review and consultant management for capital projects in Staten Island and Manhattan, including those in Central Park. Two years later, Ms. Heintz was hired by the Central Park Conservancy to be a member of the management and restoration planning team. Her responsibilities also include supervision of staff designers and coordination of city capital projects.

Bruce Kelly, RLA, Consultant
Bruce Kelly received a Bachelor of Landscape Architecture degree from the University of Georgia in 1971, and a Master of Science degree in Historical Restoration and Preservation from Columbia University in 1973. Mr. Kelly, who formed his own firm in 1977, has been actively associated with Central Park since 1973, working first for the Central Park Task Force and later for the Central Park Conservancy on a number of projects involving landscape history, design and restoration. He has designed the landscape restoration of Strawberry Fields, now in progress. He is a coauthor with Gail Travis Guillet and Mary Ellen Hern of *Art of the Olmsted Landscape* (1982, The Arts Publisher), a two-volume book on the work of Frederick Law Olmsted. A lecturer and former Adjunct Professor at Columbia University's School of Architecture, Mr. Kelly currently serves on the Board of Directors for the National Association of Olmsted Parks.

Philip N. Winslow, ASLA, Consultant
Philip Winslow received both his Master of Architecture (1965) and Master of Landscape Architecture (1967) degrees from the University of Pennsylvania Graduate School of Fine Arts. Mr. Winslow, who formed his own firm in 1975, has served on the Architectural and Environmental Arts Panel of the New York State Council on the Arts (1981-1984), as Vice President of the Fine Arts Federation of New York (1975-1982) and as both Treasurer (1972-1973, 1975-1977) and Vice President (1977-1982) of the New York Chapter of the American Society of Landscape Architects. He is currently Vice President of the Parks Council of New York as well as a member of the Steering Committee of the National Association of Olmsted Parks. His most recently completed project in Central Park is the Cherry Hill landscape just north of the 72nd Street transverse road.

Pamela F. Tice, Executive Director, Central Park Conservancy
Pamela Tice received her Master of Arts degree in Liberal Studies from the New School for Social Research in 1972. After having worked in the office of the Mayor as Director of Special Projects for the Mayor's Management Advisory Board; as Director of the Technical Assistance Program for the office of Operations; and Management Unit Chief for the Community Board Assistant Unit; and most recently as the Assistant Director of the Department of Environmental Protection's Bureau of Management Services. Ms. Tice became the Executive Director of the Central Park Conservancy in 1981. Since then she has managed the fund-raising campaign for Central Park; the day-to-day operations of the Conservancy, including financial management, Board of Trustees, and personnel; and has played a key role in long-range planning and strategies for the Conservancy's development.

Support

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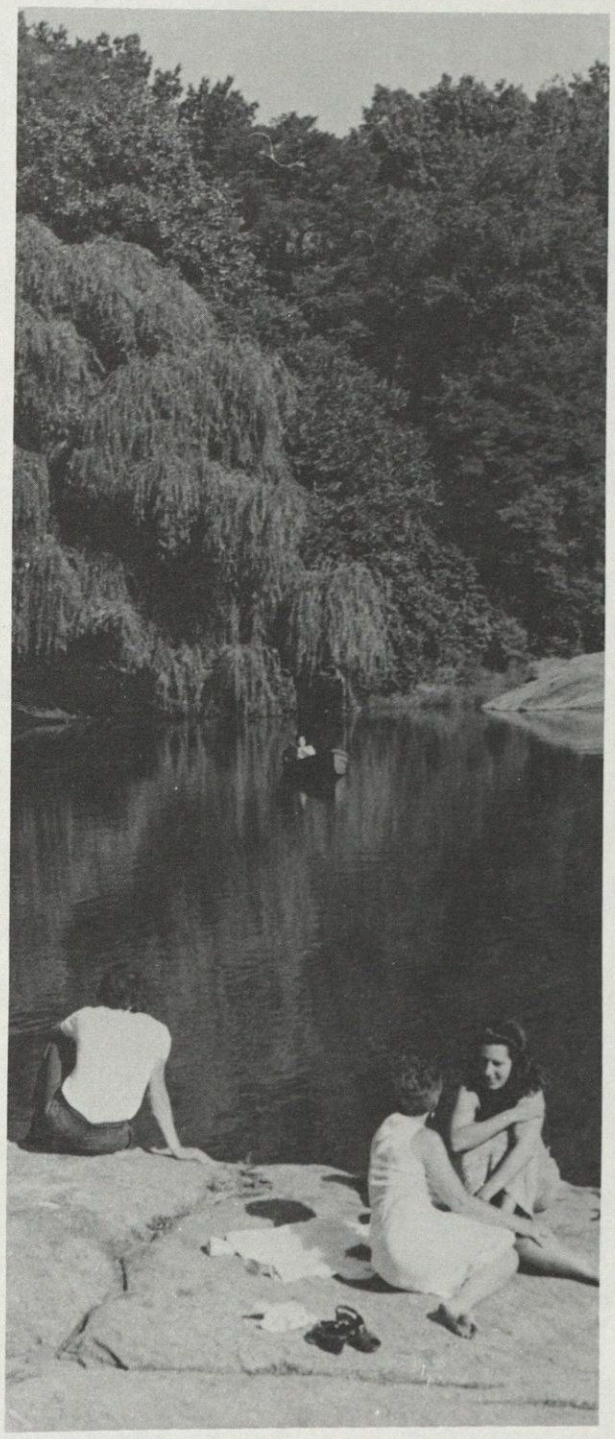

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Overlays drawn by Scott Donahue.

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